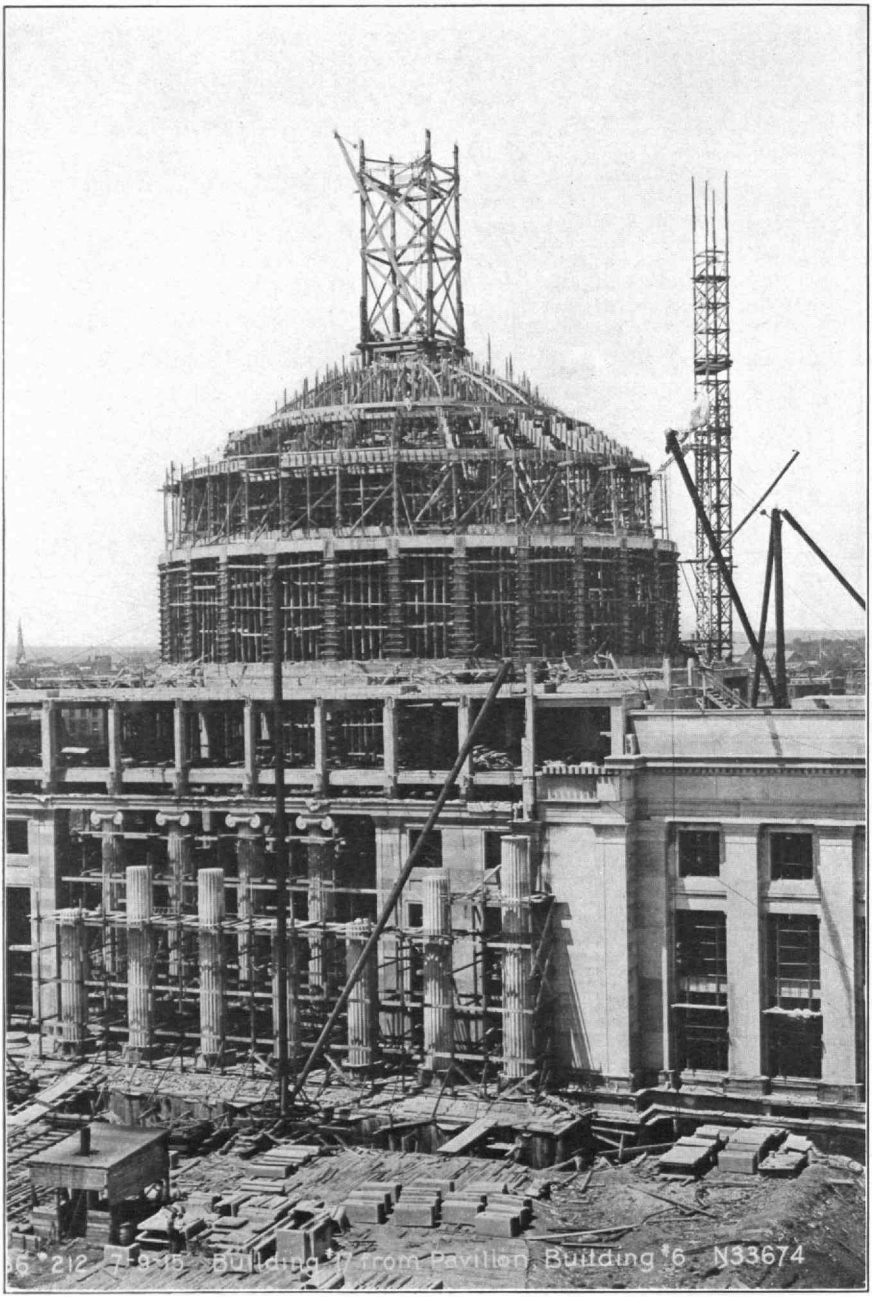


The New Technology—Administration Building as it appeared in July

technology
review
Published by MIT

The Technology Review

Vol. XVII JULY, 1915 No. 7

WALLS OF NEW BUILDING COMPLETE

All the Stone and Brick Set and Rough Partitions Well Along Toward Completion—Concrete Now Being Poured for Library Dome

Workmen on the New Technology buildings were busy the last of June in preparing concrete molds for the dome of the central Library Building, all the concrete on this last building having been poured. This completes the skyline of the group and its magnificent grandeur impresses the beholder even from very distant points where the Cambridge side of the basin can be seen.

The workmen have begun setting the great stone columns in the front of the Library Building, a part of the stone carving has been completed, and names of prominent scientists are now being cut on the entablatures.

The rough partitions have practically all been set except in Building 17 and workmen are now engaged in laying the floors, erecting elevators, running ducts, etc. The roof structures are all done excepting the skylights which are about half completed.

The stone-setters and the brick-layers are practically through with their work, the metal sashes and frames are in place and the glazing will probably be completed within two or three weeks.

By the time the Institute opens in the fall, the building work will be completed and the work of fitting well begun. The great court which is now piled with building material and littered with débris ought to be cleaned up within a few weeks. As soon as the ducts, which are to bring in the water from the Charles River, are completed, the landscape gardener can begin his work on the court.

A detailed account of the progress of the work, as reported by the Stone & Webster Engineering Corporation, June 10, is as follows:

With the exception of the steps and the areaway copings of the basement entrance to Building No. 8 in the secondary court, the setting of all of the granite has been completed.

The setting of the limestone has been completed for Buildings Nos. 1 to 8 inclusive, and there still remains only a small portion of the work to be done for Buildings Nos. 9 and 10. The setting of the stone in the main entrance of the Library Building has been commenced and the pointing up of the work that has been completed is progressing rapidly. To date 491 cars, containing 260,000 cubic feet, or approximately 96 per cent. of the total limestone, have been received and about 87 per cent. of the total required, including Building No. 17, has been set.

The brick work used in backing up the limestone in the secondary court elevations has been completed in Buildings Nos. 1 to 8 as previously reported, and Buildings Nos. 9 and 10 will be completed within a few days. The brick work backing for the limestone in the Library Building has been commenced.

The carving of the stone on Buildings Nos. 1 to 8 inclusive has been practically completed.

The erection of the terra-cotta and gypsum block partitions has been completed in Buildings Nos. 1 to 7 inclusive, and is well under way in Building No. 8.

The erection of the metal window sash and frames has been practically completed in Buildings Nos. 1 to 10 inclusive. The glazing of the secondary court sash has been completed in Buildings Nos. 5, 6, 7 and 8. The glazing of the windows facing the major court, secondary courts and the street façades has been delayed owing to the change in specifications which originally called for the use of double strength American glass, to plate glass. This plate glass has been ordered and should be received by the 10th of the month. The painting and pointing up of such windows as have been erected is being rapidly completed.

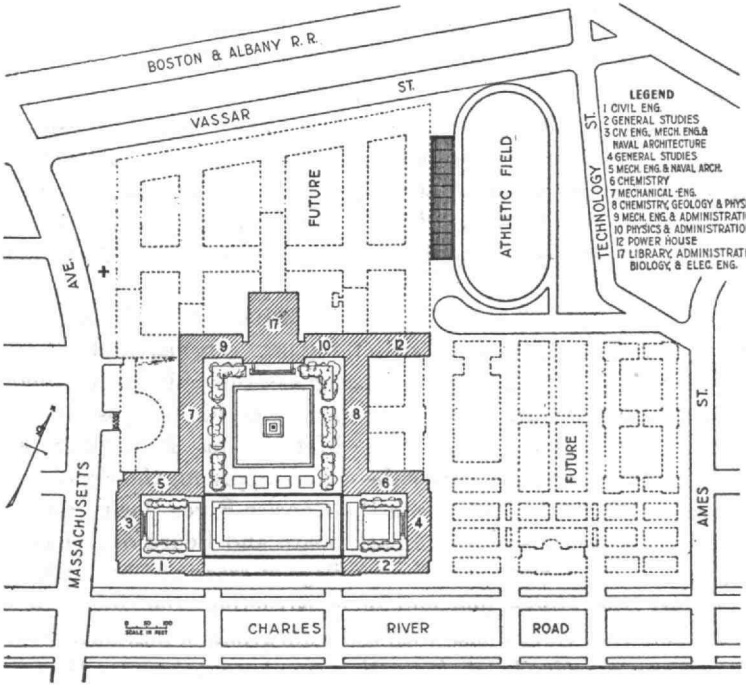
The roughing in of the cast iron sewers and drains and water leaders in Buildings Nos. 1 to 8 inclusive has been practically completed, and erection of the stacks in Buildings Nos. 9 and 10 is well under way.

The installation of the vents for the laboratory plumbing in Buildings Nos. 6, 8 and 10 has been completed, and the installation of the water supply system has been commenced. It is expected that the plumbing fixtures will be received on the job by August 1,

and this work will be practically completed by the 1st of September for Buildings Nos. 1 to 10 inclusive.

The placing of the steel crane girders in Buildings Nos. 5, 7 and 17 has been completed, and the rails for these girders are in place.

The piping for the heating system is being pushed as rapidly as possible, and this work has been completed in Buildings Nos. 1 to 6 inclusive. The risers and returns in Buildings Nos. 7 and 8 are approximately 50 per cent. completed.



FOR REFERENCE—SHOWING BUILDING NUMBERS

All of the sheet metal work and waterproofing required on the roofs of Buildings Nos. 1 to 6 inclusive, and the pavilions, has been completed. The skylights have been completely erected in Buildings Nos. 1 to 6 inclusive, and work is well under way in Buildings Nos. 7 and 8.

Good progress is being made on the construction of Building No. 17. At the present time the structural concrete floors for the 1st, 2d, 3d, 4th and 5th floors and roof have been completed; and forms erected for the drum of the dome.

As previously reported, a contract was placed with Richey, Browne & Donald of New York for the furnishing and installing of all interior stairs required for the new buildings. Working drawings have been received from this firm, and it is expected that shipments of material will commence before the end of the month.

The contractors have commenced work on the installation of the elevators in Buildings Nos. 9 and 10. One car of material for these elevators has been received at the present time.

A contract was placed during the month with the B. F. Sturtevant Company for furnishing and installing all sheet metal work necessary for the ventilating ducts and for all of the fans and motors required for this system.

Plans and specifications have been sent out with requests for proposals for doing all the metal lathing and plastering required for the buildings; for all marble, tile and terrazzo work; and for all the slate blackboards. Plans will be ready to send out with requests for proposals for all hardware and wood trim within the next few days.

Since a definite decision has been reached locating the power house on the west end of the strip lying between Vassar street and the railroad tracks, the structural designs of this building and plans for the equipment are being developed as rapidly as possible. A permit has been received from the Metropolitan Park Board authorizing the Institute to draw the water supply for the circulating and condensing equipment from the Charles River Basin, and petitions have been made to the park board and Board of Aldermen of the city of Cambridge for the privilege of crossing Charles River road with the intake line and of constructing the duct tunnel connecting the power house with the main group of buildings under Vassar street. Until definite action has been taken by the city of Cambridge in this matter we have considered it inadvisable to commence active construction on the power house. Specifications, however, have been prepared and sent out requesting proposals for furnishing the structual steel and for practically all of the mechanical and electrical equipment required.

GIFTS ANNOUNCED AT POP CONCERT

Over half a million dollars given to Tech by Alumni and anonymous donors—Dormitories and mining building assured

Interesting as were the regular exercises at the Tech Pops, the real sensation of the evening came when President Maclaurin made the announcement to the gathered alumni of gifts to the Institute amounting to more than half a million dollars. Two anonymous gentlemen—emulating the original Mr. Smith, tendered to the Institute gifts of $150,000 and $100,000, respectively, and in addition there is a gift of $100,000 from Coleman du Pont, '84, whose original gift to the Institute in 1911 made possible the purchase of the Cambridge site and inaugurated the new era of prosperity for Technology. These sums are to be used for a starter for the dormitories, and show the way towards a happy solution of a question that has recently been much discussed at Alumni Council meetings.

Next there was announced that the funds with which to construct the mining building, amounting to $215,000, have been offered to the Institute by three men, Charles Hayden, '90, of Boston, who gave $75,000, Coleman du Pont, '84, $65,000, and S. Pierre du Pont, '90, of Wilmington, Del., $75,000.

Then there comes from the Boston men, Charles A. Stone, '88, and Edwin S. Webster, '88, individually and not as a firm, the gift of a residence for the President, to be built on the Cambridge site.

The dormitory question is one that appears now to be solved in a happy manner. With the stringency of the money market it has seemed untimely to call for subscriptions with which to build them, but nevertheless, the taking of a body of seventeen hundred students to Cambridge makes it imperative that dormitories be ready for them when needed, and with these funds assured a beginning may be made.

When the original plans for the Technology educational group were sketched, a mining building was one of the component parts and a place was assigned to it in the northeastern corner of the group of structures. When it was found that the lands of the

Institute on Boylston street could not be disposed of at once and, in the prevailing condition of the real estate market it would be futile to try to dispose of the holdings on Clarendon street and Trinity place at present, it was decided to leave the construction of the Mining Building for the future and to house the department in somewhat improved quarters in its present place, the basement of the Rogers Building in Boston. This has many disadvantages, as the study of mining and metallurgy is intimately connected with geology and chemistry which are to be housed in Cambridge. It is with great pleasure, therefore, that Dr. Maclaurin is able to announce that the funds are to be provided whereby the building itself may be completed.

The President's home is a tribute from alumni who are in touch with student conditions of today, to Mrs. Maclaurin, who in her watchful care for the students provides for them frequent little social occasions.

To Test the McKay Will

For the purpose of obtaining instructions as to their rights in carrying out an agreement with the Massachusetts Institute of Technology to take up the work provided for in the will of Gordon McKay, who died on October 19, 1903, the president and fellows of Harvard College have filed a bill in equity in the Supreme Judicial Court.

Practically the entire estate left by Mr. McKay was bequeathed to Harvard to maintain a separate school for instruction in the industries, arts and sciences, particularly in those relating to mechanics, physics, engineering, manufactures, commerce, chemistry and electricity. The college is already, under the terms of Mr. McKay's will, receiving surplus income after the payment of certain annuities and upon the death of the last annuitant the entire property reverts to Harvard. The fund at present is $5,500,000.

Frank F. Stanley and George E. Gilbert, the surviving trustees of Mr. McKay's will, have doubts as to the legality of the transfer of the fund to Technology and, to settle that point, the petition has been filed.—*Boston Transcript.*

NEW OFFICERS IN NEW YORK

A real, live club in the Metropolis with "Boost Technology" as its motto—A great year ahead

At the annual election of the Technology Club of New York, the following officers were elected: president, F. C. Schmitz, '95; vice-president, Schuyler Schieffelin, '90; treasurer, Ira Abbott, '81; assistant treasurer, Clifton W. Wilder, '98; secretary, Ralph H. Howes, '03; board of governors, Ira Abbott, '81, Howard L. Coburn, '87, Frank C. Schmitz, '95, Lester D.Gardner, '98, Thomas C. Desmond, '09, T. Howard Barnes, '81, Oswald C. Hering, '97, Theo. I. Jones, '96, Clifton W. Wilder, '98, Ralph H. Howes, '03.

The new president of the club, Frank C. Schmitz, '95, has for several years been a stanch worker for the Technology Club of New York. He has served on many committees, also as secretary and vice-president of the club, and is particularly well equipped to direct its activities and to accomplish much toward its upbuilding. Through several able administrations the organization has arrived at a footing where it can now venture a little along new lines. Mr. Schmitz is making a strong appeal to the club membership to give the club a substantial boost this year, and interesting developments may be looked for later on.

The board of governors, which is somewhat changed from last year, is alive to the needs of the club and intends to give particular attention to making the house attractive. New forms of entertainments will be provided and plans are being prepared for the further renovation of the club house and for the new decorations which it is hoped will be finished by fall.

A very important innovation recently made met with hearty approval of the members. From now until the first of September, Saturdays will be ladies' days at the club. This will give the families of members an opportunity to see the club house and enjoy its facilities. It is suggested that later on ladies' days with dancing will be tried. Opinions of the members are now being sought on this matter by the governors.

It has been found desirable to give the organization a more practical working plan than at the present, and a committee has

been appointed to revise the constitution in some particulars. Among the matters under consideration is the enlargement of the board of governors to conform to the practice of other clubs, the election of the officers by members of the club at large and the clearing up of a number of points that have been difficult of interpretation.

The *Bulletin* of the club publishes a letter from Ira Abbott, '81, treasurer of the club, which is an eloquent presentation of how Tech men do things under difficulties when they try.

In 1909, when the sublease of the club house was made, he says there were 266 members, and at the end of four years there were 992. In 1909 there was a surplus of $971, and in four years it stood at $3,201. January 1, 1915, the membership stood at 957, and the surplus, $8,025. In 1912 it was voted to spend $20,000 on improvements. The indebtedness has now been reduced to $17,900. In the five years, from January, 1910, to January, 1915, the losses because of unpaid club accounts were less than three-quarters of one per cent.

One of the best features of the work of the New York Club is the Business Opportunities Committee, which has been instrumental in placing many Tech men. The chairman of this committee, Mr. T. I. Jones, '96, 17 Gramercy Park, New York City, will be glad to hear from employers who desire men of technical training. The committee gives a great deal of time to studying the wants of employers and keeps a list of competent men, and makes it a point to look carefully into the qualifications of Tech men applying for positions.

Everyone in the club is sorry to lose Walter Large, '79, as its president. Notwithstanding his busy professional life, he has given his personal attention to the various enterprises that the club has furthered and attended the numerous meetings of the board of governors. His guiding hand has been everywhere in evidence throughout his incumbency. It is largely due to his rare qualities that the team work of the various committees has been practically perfect. The new committees of the club are as follows: House Committee—Oswald C. Hering, '97, chairman; Franz Schneider, Jr., '09; James McF. Baker, '04. Membership Committee—Howard L. Coburn, '87, chairman; Charles A. Howard, '06; Kaludy Spalding, '89; Frank P. Montgomery, '03; Paul Ruttkay, '13. Annual Dinner Committee—Daniel W. Edgerly, '98, chairman; Ed-

ward H. Huxley, '95; Benjamin Hurd, '96; W. S. Babcock, '83; W. V. Kemp, '13. Art and Library Committee—Noel Chamberlain, '04, chairman; Fred E. Foss, '86; Ernest F. Lewis, '07; Julius F. Gaylor, '96. Business Opportunities—Theo. I. Jones, '96, chairman; J. Waldo Smith, '87; Gerard Swope, '95; T. Howard Barnes, '81. Entertainment Committee—Thomas C. Desmond, chairman; M. F. Tiernan, '12; Charles E. Lawrence, '96; Guy F. Shaffer, '10. Finance Committee—T. Howard Barnes, '81, chairman; Charles Hayden, '90; Dickson Q. Brown, '98; William C. Potter, '97; George V. Wendell, '92; Schuyler Schieffelin, '90. Publicity Committee—Lester D. Gardner, '98, chairman; Charles-Edward A. Winslow, '98; I. W. Litchfield, '85; Robert W. Weeks, '13. Legal Committee—Walter Large, '79, chairman; Robert S. Allyn, '98, William H. King, '94.

Class of '95 Organizes in New York

This is the year when the class of '95 would have celebrated its twentieth anniversary, but on account of the plans for the big Boston reunion in 1916, it has been decided that the '95 class, instead of celebrating its twentieth anniversary, will celebrate its "coming of age" anniversary, the 21st, in Boston in 1916.

A luncheon meeting was called of the '95 men in and around New York and seventeen men were present. The following is a list of them:

Ames, Azel, Belknap, F. W., Blodgett, Perly, Canfield, A. L., Claflin, W. B., Cutter, F. W., Davis, H. E., Donham, B. C., Drake, A. W., Gardner, J. H., Huxley, E. H., Moore, J. D., Park, F. A., Parmelee, C. L., Schmitz, F. C., Swope, Gerard, Wiggin, Thos. A number of the men had not seen each other for years, and it was a very pleasant occasion; so pleasant that it was decided to form a permanent New York '95 organization, and have meetings two or three times during the year. Gerard Swope of '95, 463 West street, New York City, was elected secretary.

Ideas were canvassed in regard to the 21st anniversary for 1916, and the committee is beginning early, so that the great event may be fittingly celebrated.

THE TECHNOLOGY CLUB OF BOSTON

Reasons why the organization sold its house at 83 Newbury street, and accepted the courtesies of the Engineers Club

In the removal of the Institute to Cambridge next year, the officers of the Technology Club foresaw a new set of conditions to which the club would be obliged to adjust itself. A very considerable part of its membership, and a still greater part of its patronage, comes from the instructing staff and the undergraduates. After the removal, these would be almost entirely lost to the club if it were to remain on the Boston side of the Charles. But to decide offhand to move to the Cambridge side would have been to venture into other conditions which can only become manifest after the Institute is well settled and in running order in the new location.

Thus it seemed that an interim of "watchful waiting" would be the best thing for the club, while the new conditions were shaping themselves. The logical time for the club to begin this resting upon its oars would have been, of course, at the end of the school year in 1916. But there were three considerations which served to bring matters to a head just one year earlier: First, a generous offer from the Engineers Club to give all Technology Club members in good standing the privileges of its club-house, with no increase over the Technology Club dues; second, an opportunity to sell the club-house and furnishings at 83 Newbury street to the Institute for $32,500—a sum sufficient to enable the club to meet every obligation and to have a surplus; and third, the action of many members in anticipating the club's problem by resigning,—many of them clear cases of getting scared a whole year before they were hurt. Then, too, the uncertainties of the future left the club without a logical appeal to the alumni for new members to fill the depleted ranks.

Therefore it seemed wise, in the estimation of the Council, that the club should avail itself of the double opportunity to dispose of its property in a satisfactory manner and to secure for its members the privileges of a club whose membership is so largely composed of Technology men. Fifty of our own members were already members of the Engineers Club.

At a special meeting of the Technology Club, the sale of the property and the acceptance of the very advantageous offer of the Engineers Club were unanimously approved, and at the close of the school year in June the club-house was closed. Now, any member of the Technology Club who has paid his dues has only to present himself at 2 Commonwealth avenue to be received without further form as a member of the Engineers Club for the ensuing year. It is hardly probable that many more of our members will resign while this opportunity is available.

The Technology Club, Incorporated, still has its charter, its full complement of officers, and exists in every sense except that it has temporarily transferred its members to the house of a neighboring club. Whether it will cease to exist depends upon its future action. It is ready at any time to resume its activities as soon as conditions so shape themselves as to make its course reasonably clear.

What that course will be cannot now be predicted with any certainty. It has been suggested tentatively that the Technology Club be perpetuated as the organization through which the instructing staff, and as many of the alumni as wish to join with them, will receive the privileges of the Walker Memorial. But the Walker Memorial, because of its location, cannot hope to give anything like club service to anyone outside the instructing staff. The Technology Club, as a club for the alumni, would in that case be no more than a memory.

It is both fitting and essential that the alumni rally to the continuous support of the Memorial that is to be built with their contributions, and that they should do this through some form of membership. But to call this membership the Technology Club is to admit that, as a club for the main body of Technology men, we have laid down and died. Better for us to remain moribund for an indefinite number of years, until our thousands awake, as Harvard's finally awoke, to the necessity of a club in Boston, than to give up our name and charter to an organization which we should all support, but which can never be a real Technology Club.

Harvard's alumni, after unnecessary years of timorous waiting, made of the Harvard Club an immediate success. With one exception, this new venture is the largest and most patronized club in Boston. It now realizes that it should have arrived many years before it did. We have nothing like the alumni strength of Har-

vard, but we think we know somewhat more of alumni unity and enterprise. Who knows how soon there may be sufficient warrant for a first-class club-house in Boston—one better equipped and better adopted to meet the purposes of a club than the old house at 83 Newbury?

We do not know what factors may arise under the changed conditions which may lead to the necessity of an alumni center in Boston. Therefore it would seem that we should keep our name and charter intact, for years if necessary, so that when the time comes to us, as it came to Harvard,—and it will come to us just as surely, sometime—to build a home in Boston for our alumni, we shall be able to give that home the only name that it should have—the Technology Club. SETH K. HUMPHREY, '98.

Special Class News Numbers

It has been suggested that the class news for the November number of the REVIEW be largely devoted to letters and news from Tech men located at a distance from Boston. Every alumnus in a foreign land has been requested to send in contributions to the class secretaries.

The class news in the January number will be especially devoted to the work that the Technology alumni are doing for their towns, cities and states, as members of committees or in other capacities, working without recompense. The aggregate benefit that the country is deriving from this sort of work, which is being freely given all over the United States, is stupendous, and class secretaries will be under obligations to their classmates who are interested in public work of any kind if they will give a description of what they are doing, and what is being accomplished. Will our readers please consider this a request for news of this kind?

The class news for the April number will be largely given over to reminiscences of Institute life. Alumni are especially requested to write to their class secretaries regarding interesting episodes that happened at Tech, with the understanding, of course, that the editor of the REVIEW and the secretaries will feel free to edit the copy as may seem best.

It is thought that these special features will add much to the attractiveness of the class news, much of which, even now, is of great interest to the general reader.

A WORD AT PARTING

The Walker Club at its summer meeting shows its appreciation of a valued member and friend, Professor Arto Bates

On the afternoon of Saturday, May 15, the Walker Club made its annual May party and initiation the occasion of a tribute to a long-time member, Professor Arlo Bates of the English Department, now retiring after twenty-two years of service. It was the more appropriate in that Professor Bates has always shown a keen interest in the club and has done much to help it; of this, the afternoon was intended as some faint recognition and requital. There was a large gathering at the Oakley Country Club in the perfect weather, of the Faculty, of undergraduate members, and of neophytes. After a most amusing out-of-door initiation, in which the new men gave a lively representation of a movie film, the members went indoors to listen to a short program of verses and songs, serious and humorous, planned to poke a little genial fun at "Arlo", and to show as well, how real a place he holds in the affections of Institute men. Five members of the club, in colored gown and cowl, did the deed. In reply Professor Bates spoke most happily, reminiscing for a time in his character of patriarch, with personal anecdotes of Methuselah, Noah, Jonah and other contemporaries, and at the last speaking most movingly of his long and close relations with Technology men and the pleasure it had given him to have young men come to him for help and guidance. The undergraduates present were given an unusual chance to see how a member of the Faculty feels about his work, its opportunities and compensations, and everyone felt that it was perhaps the most significant meeting the Walker Club has had in many years.

The program of the exercises follows:

OPENING VERSES (Read by President Russell H. White, '16).

Sir, ere you twitch your mantle blue
And go to greener grazing,
The things we'd like to say to you
Are many and amazing;

The doings of this afternoon
We trust will ever haunt you,
'Tis ours today to call the tune—
We've got you where we want you.

Think of the many, many times
When, merciless as Nero,
You have addressed in prose or rimes
Some hapless friend or hero;
Think of the merry-makings past
You've sat at, and what worse is,
Discoursed brave poesy—At last
'Tis our turn. Hence these verses!

LYRIC OUTBURST (Sung by Donald O. Dunn, '16).

His name is Arlo, Arlo Bates,
And he lives in Brimmer Street,
His mind is full of the English tongue
And li-ter-a-ture complete,
He sits behind his desk in the room
Just opposite the Dean,
And all the freshmen tremble at
The name of Rogers 16:
Oh Mr. Arlo! Arlo, Arlo Bates,
Oh Mr. Arlo, we are in terrible straits.
We'd like to pass off Freshman Comp.
And second-year English too;
We hate to think of Logic
If there's anything better to do;
We're shy on Chaucer and Oscar Wilde
And everyone else between——
So wont you please to let us off
From terrible room sixteen!

LOGIC (Read by William J. Farthing, '17).

The shades of night were falling fast
When out through Brookline Village passed
A youth who sought a blasted heath
Where he might mutter through his teeth,
Logic!

Stay, said the maiden, stay a lot;
Stay, and we'll do the fox's trot;
Nay, said the youth, I dare not bide.
I must recite at morning tide
Logic!

For instance:
Whatever is not black is white.
Mr. Blackstein is only half black.
Therefore——
The President: False major premise!

Iron is never white.
Iron is sometimes rusty.
Therefore, Rusty cannot be White.
The President: Undisturbed middle!

Ale is deleterious.
Some ale is Burton ale.
Therefore the Dean——
The President: *Post hoc ergo propter hoc.* False!

At break of day as Rogersward
The trembling freshman, evil-starred,
Sought out the chilly English room,
A voice cried through the startled gloom
Logic!

The freshman by the faithful Dean
Half dead from overwork was seen,
Remarking: I'll leave M. I. T.
If I can't drop this comedee,
Logic!

Second Year English (Read by Osborne R. Freeman, '14).

I sprang to the saddle and Joris and he;
I galloped, Dirck galloped, we galloped all three.
(Twas a terrible ride to look back and remember)
We started from Beowulf back in September,
We leaped over Cynewulf, Aelfred and Bede

And wondered how long we could keep up the speed.
Twas September at starting; Thanksgiving drew near;
We overtook Chaucer, left *him* in the rear,
We hurried the Renaissance through like a flash,
The Revival of Learning we did in a dash,
Cut corners at Spenser, leapt Marlowe entire,
But drew rein by Shakespeare, to rest by his fire.
Then, Gallop! gasped Joris. The Mid-years got Dirck!
Speed up, lad, here's Milton. Here comes the rough work!
The Restoration was steep, but Queen Anne gave a lift
That helped us a little to pass Pope and Swift.
At Addison Joris gave up and passed out.
I saw Fielding approaching, leapt him with a shout,
Past Johnson and Gibbon and Goldsmith and Burke,
Through Show-week I galloped—twas too late to shirk!—
I stayed not for Keats and I stopped not for Scott,
I swam Wordsworth's Yarrow since a Ford I had not,
Then through the hot weather I saw the home stretch.
One last leap at Tennyson—twas a sad sketch!—
Then fell at the Finals, unable to cram,
If the Prof. hadn't let me omit the exam,
Which, the Faculty voted, was only fair play—
To learn *all* English Lit. from September to May.

Composition (Read by Russell H. White, '15).

To write or not to write? That is the question.
Whether tis nobler in the mind to suffer
The slings and arrows of outrageous Arlo,
Or to take arms against a sea of red ink
And by opposing, flunk out. To write, to write—
To miss, perchance, the outline. There's the rub!
For in the outline what red marks may come,
When we imagine we have got it right,
Must give us pause.
For who could bear the whips and scorns of Bates,
The oppressor's wrong, the proud man's contumely,
The pangs of disprized themes, the hard rewrite,
When he himself might his quietus make
By copying a theme. Who cares for Cs?
To grunt and sweat under a weary load,

Save that the dread of something worse next year,
That undiscovered special section work
Would make us rather bear those ills we have
Than fly to others that we know not of.
Thus writing doth make cowards of us all,
And thus the native hue of written English
Is ruddied o'er with the red cast of ink,
And compositions of great pith and moment,
Through lack of periodic sentences,
Do lose all chance of passing!

LYRIC OUTBURST (Sung by Donald O. Dunn, '16.)

Of all the good masters in fifty states,
There's none of them better than Arlo Bates,
Arlo Bates, Arlo Bates,
There's none of them better than Arlo Bates!

So lift up your voices in song, my mates,
In fit celebration of Arlo Bates,
Arlo Bates, Arlo Bates,
In fit celebration of Arlo Bates.

There's none who has given us more than he
In all of his labors at M. I. T.
M. I. T., M. I. T.,
So here's to our Arlo and M. I. T.

VERSES (Read by Robert E. Rogers).

In the Name of the Walker Club.
To Arlo Bates.
Defender of the Faith.
Champion of the English Tongue and Letters
Against the World, the Flesh, and the —Faculty.

Man that is born of Woman
Quickens, struggles, is dead,
Whatever splendor is human
Comes to one narrow bed;
Yet, lest we be too humble
As the gorgeous years go by,
Forget not, though all die and crumble—
Art cannot die.

Growing up in the morning,
Cut down for the oven at eve,
There is given us still this warning
Lest we grow sick and grieve;
Though the world seem to banish
Her magic looking-glass,
Though all things pass and vanish—
Truth cannot pass.

Loveliness? Each age knows it,
Each age dreams it is gone,
Yet every springtime shows it,
Yet every whispering dawn;
Call it not misbegotten
That which your soul abjures,
Though all else be forgotten—
Beauty endures.

Out of the wealth and wonder of your mind,
Out of the loving kindness of your heart,
You taught these generations who were blind
The secret and the holy ways of art;
Short generations of swift-fleeting youth
Whose stern eyes fixed on the material goal,
Lacking, nor knowing that they lacked, the truth
Of all should set them free and make them whole.

Still through your voice they caught some quickening breath
Of all the vivid glory that was Greece,
The spacious days of great Elizabeth
When men sought beauty like some golden fleece,
Through your eyes saw the Renaissance aflame,
Through your mind dreamed of eager poets and young,
Through your speech learned there might be nobler fame,
Than our today can give with brazen tongue.

So they go forth, these boys whom you have taught,
Less blind, less careless of those unseen things,
Fitted the more to live since you have thought
There is a sweeter song than our day sings;
And may the cities they shall labor in,
Seeking new truth forever, losing naught,
Retain and cherish through their angry din
Some echoes of the glory you have sought.

If you see not that glory all about,
If you deny the splendor still to come,
If you refuse to hear the mighty shout
Of alien voices that to you are dumb—
Still, it is yours to pass the Ancient Light
To eager hands that know not why they grasp,
Still, it is yours to give young men delight
To know there may be poetry in their task.

Though one age cede to another,
Though old truth give birth to new,
In all our swelter and smother
There was left great work for you;
For our Pharaohs know not Joseph,
Our sons reck naught of their sires—
It was yours in our night of labor
To tend the old fires!

Fires the first man kindled,
By which our fathers prayed;
Though they seem dulled and dwindled,
Not so—be not afraid!
Quenched shall the flame be never
Through all these winds' worst strife—
Light beyond light forever,
Life beyond life.

FINAL CHORUS.

Give a rouse then in the May time
To the Master staunch and true,
Who knew life was more than play time
For the work he had to do,
For the years he has striven,
And the best of him he has given,
May it always be day time
For his work is not yet through.

So, behold as he passes,
Lift high to him brimming glasses,
With a toast to the Master—
And our best Good Luck to you!

Explicit Carmen Saeculare Arlobatesense.

R. E. R.

COMMENCEMENT EXERCISES AT TECH

Largest class ever graduated from Tech—Many theses of value presented on a wide variety of subjects

Tuesday, June 8, was Commencement Day at the Institute, and the graduating exercises were characterized by the same simplicity that has always been observed. There were 326 diplomas given out, 292 of them were for bachelors of science, 30 masters of science, and three for doctors' degrees. The geographical distribution of the graduates is interesting: 41 of them came from the West, 60 from New York and the South, 24 from foreign countries, and from Massachusetts, 162; other New England states added 31 to the list. From New York State there were 27 men, and New Jersey, 8; South of Washington there were 12 graduates; the west coast had 18. The foreign countries represented were Hindustan, China, Syria, Russia, Turkey, Brazil, Paraguay and Canada. Hawaii and the Philippines were also represented.

The theses of the graduates, of which twelve were read at the Commencement exercises, cover a wide range of subjects—from the manufacture of baking powder to the designing of a mosque for the Sultan. One of the most interesting theses was prepared by T. H. Huff of Overbrook, Pa., on "An Investigation of the Practicability of a Power Driven Aeroplane Model." An investigation of aeroplanes has always been a source of large expense, because a full-sized model had to be used. There has always been serious objections to small models; the use of rubber bands as a motive power, for instance, is a great flaw in getting satisfactory results from such trials. The size of the fittings is another difficulty that confronts the investigator using a model, as this feature of airships is an extremely important one. Mr. Huff built a machine of about twenty-foot span of the Burgess-Dunne type, which has demonstrated its stability in actual practice. It was designed after the navy hydroplane type and was fitted with a three-horse-power motor. Testing was done in the early hours of the morning on the Charles River basin opposite the New Technology.

One of the foreign students, S. M. Bagdoyan of Aintab, Turkey, has been studying concrete roads to determine if they stand up

under various kinds of traffic; and B. A. Abdulnour of Beyrout, Syria, an architect, had for his thesis subject the "Designing of a Mosque for the Private Use of the Sultan of Turkey." The only stipulation in regard to this mosque is that it shall face toward Mecca. The author divided it into two zones, the outer one for the removal of the shoes, while the inner part, reached by a short flight of stairs, is the shrine proper. In the wall facing Mecca is a niche known as the Mihras, while opposite this is a balcony which is reserved for the women worshipers. Around the outside of the church the architect has provided pulpits for other ministers as well as a boulevard where people may come down, by special permission, to see the Sultan on his way to church on Fridays.

N. E. Kimball of Haverhill and C. G. Norton of Vineyard Haven made an investigation on the efficiency of the friction drive on the Metz automobile. Heretofore, bevel gears have been thought more efficient, but the measurements made by the authors of the thesis show that the friction drive compares very favorably with the other type.

W. M. Africa of Manchester, N. H., with R. L. Fletcher of Providence, R. I., presented a thesis on "The Heat and Moisture Given out per Person." The authors worked at various theatres during performances and measured the moisture in the air inlet pipe as well as in the outlet pipe, and divided it by the number of persons present. Air was supplied at a slight pressure to prevent outside air from leaking in. Another method was to place a man in an air-tight box and make the proper measurements during the period of thirty minutes. Men of four nationalities were experimented on. Another method was by weighing the man before and after his stay in the box. The result of this thesis will be of value in figuring proper ventilation systems for public places.

Six of the students were associated in performing a thesis on "A Traffic Study on the Boston Elevated Railway System." This was in connection with the work of the civil engineering course. Observers were stationed at several of the great traffic centers in Boston and questioned over ten thousand persons as to their destination. Half of these were on the surface and the rest in the subway. From the answers given plots and tables were made, and a very good idea of the direction of traffic will be had from this data.

Three of the students, members of the mechanical and civil engineering courses, prepared a thesis on "A Plan for a Public Market

System." A vast amount of ground was covered by this investigation, which was attacked from the standpoint of economy in living. In tracing the cost of articles, only 15 per cent. of which come from Boston, the men first turned their attention to the producer and then to the wholesaler and commission man. They found that these are not only necessary, but they carry on their functions at a reasonable rate as a rule. The jump in price came when the retailer was reached. Here they found a rise in the cost of food products of from 30 to 100 per cent. One of the principal reasons for this jump is due to the cost of making frequent deliveries of goods and this is a demand made by the customer. Telephone services and other conveniences added to the expenses, and rents in best locations for deliveries are high. The remedy proposed by the authors of the thesis is a public market but run entirely by the city. This is not to be a real estate proposition as are most of the present markets. A public market at Worcester, a private concern, was taken as a model. The investigators conclude that if a city or a private enterprise should carry out a provision of this kind, buying in large quantities and selling on a small margin of profit, at the same time limiting its deliveries, the cost of foodstuffs would be largely reduced.

Two students, R. B. Haylett of Milwaukee and H. J. Lucey of Natick, Mass., have been working on the flow of viscous liquids through pipes with curves. To make this investigation over 400 feet of pipe had to be erected. The importance of their studies may be judged when one realizes that there are many hundreds of miles of continuous pipes in oil districts and comparatively little is known of the laws covering the flow of oil through them.

These are only examples showing the character of the theses, many of which are not only of great interest, but of much practical value.

Announcement has just been made by the President of a gift to the Institute of a fireplace and mantelpiece which is to be placed in the executive office of the Chemical Department in the new buildings. The idea of the donor, Professor Harry P. Talbot, '85, is to give this office an appearance of comfort and refinement in contrast to the usual severity of a room of this kind. This gift is intended to be an addition to the contribution of the class of '85 to the New Technology.

THE PRESIDENTIAL RANGE

Historical sketch portraying the vicissitudes of M. I. T., and announcements of gifts make the Pop Concert an event to be remembered

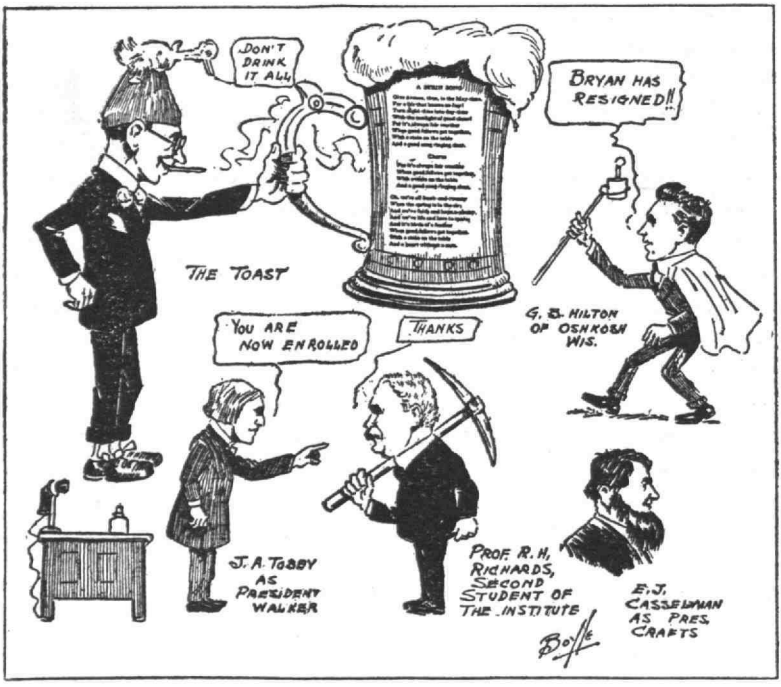
The annual Pop Concert, which was held in Symphony Hall, Boston, June 8, was particularly attractive because of the historical sketch representing the history of the Institute from its founding to the present time, which was acted principally by members of the senior class. The number attending was, perhaps, greater than at any Pop concert during recent years. The seniors were there in great numbers and acted as an escort to the celebrating class of '90, which arrived garbed in fantastic costume of many colors. The class of '08, which was about to make a two days' raid on Martha's Vineyard, was also in evidence. One of the largest delegations was the class of '05, which had been celebrating its tenth anniversary at Winthrop.

The historical sketch was called the "Presidential Range" and was written by Harold E. Kebbon, '12, and R. E. Rogers, instructor of English at the Institute. On the stage was a small-sized reproduction of a mountain range with the characters, representing the various presidents of Technology upon its several peaks. On the left was a picture of the Rogers Building, and on the right, the New Technology.

The sketch opened with President Rogers seated at his desk and speaking of the school, which has just been opened February 20, 1865. While he is talking there is a knock at the door and Professor Richards enters to be enrolled as a student. This gives President Rogers an opportunity to tell something of the ideals of the new school.

President Runkle, who is next introduced, speaks of the financial difficulties of the Institute, the Boston fire and the generosity of Mr. Lowell to the Institute. The Alumni Association was formed at that time by Professor Robert H. Richards. Miss Plummer, a member of the senior class, representing a would-be co-ed, here enters and demands that women be allowed to come to the Institute, which is granted.

General Walker announces the death of President Rogers in 1882, and calls upon the gathered alumni to rise to his memory, while the great organ plays a strain from Auld Lang Syne. Announcement is made of the new Walker Building, with the establishment of courses in electrical, chemical and sanitary engineering and naval architecture. At this time the legislature gave a grant to Massachusetts on condition that the Institute fits its young men to take their share in the national defense.



THE POP CONCERT AS THE *JOURNAL* ARTIST SAW IT

Then President Crafts assumes the chair and, calling for certain chemical apparatus, distills much gold and many bank notes, representing the gift of money to the Institute by the will of Henry L. Pierce.

Dr. Pritchett gives particular attention to the social side of the students. Announcements of gifts of $100,000 for a Walker Memorial, the establishment of the Tech Union, and the new athletic field at Brookline are made. During his period a student

with cap and torch enters, calling to mind the police riot on Rogers steps. The recognition of the Alumni Association is also portrayed.

Dr. Noyes, who next occupies the floor, introduces President Maclaurin, who gives an appreciation of his predecessor, and immediately starts in on plans for the new site. A masked man appears announcing himself as the "mysterious Mr. Smith" and is immediately held up by the President to the tune of two or three million dollars. "Fair Harvard" is represented by one of the seniors dressed as a girl, who makes love to Mr. Tech Man, bringing with her the McKay millions. The Alumni Association, which has grown and prospered, represented by Mr. Horn, president of the Alumni Association, appears and makes the Institute a gift of $500,000, representing the Alumni Fund. The seniors are then addressed by the student representing President Maclaurin, and afterwards turned over to Mr. Horn, who makes an excellent short address of welcome to the alumni ranks. The seniors give a long yell for the Alumni Association, and the alumni respond in turn. President Horn gives the banner of 1915 to the president of the class, and the ceremony is concluded.

This bare outline can hardly give an idea of the excellent conception embodied in the sketch. It was hastily prepared and even more hastily rehearsed, but it was considered fully as good as the performance of last year.

Shortly before the entertainment was concluded President Maclaurin was introduced by Mr. Horn of the Alumni Association, and made announcement of gifts which are detailed elsewhere in the REVIEW. This stirred the alumni to delirious cheers and made the Pop Concert of 1915 an event long to be remembered

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There are occasional inquiries in regard to the terms of office of the various presidents. They are in order as follows:

William Barton Rogers	1865–1870
John D. Runkle	1870–1878
William Barton Rogers	1878–1881
Gen. Francis A. Walker	1881–1897
James M. Crafts	1897–1900
Henry S. Pritchett	1900–1907
Arthur A. Noyes (acting)	1907–1909
Richard C. Maclaurin	1909–....

PROFESSOR EVERETT GOES TO ANNAPOLIS

He becomes professor of Marine Engineering in the post-graduate department of the United States Naval Academy

President Maclaurin announces the resignation of Assistant Professor Harold A. Everett, of the department of naval architecture and marine engineering. Professor Everett has been appointed to the position of professor of marine engineering in the post-graduate department of the United States Naval Academy, at Annapolis.

Professor Everett, born in Manchester, N. H., is one of the graduates of M. I. T., who, after some experience in the outside world, returned to the Institute as a member of the instructing force. He was of the class of 1902 and after taking his degree visited the shipyards in Europe, and the next year was in the yard of the Fore River Company, his special work being the installation of the auxiliary machinery in the torpedo-boat destroyers, *Lawrence* and *MacDonald*. He went next to the New York Ship Building Company in the scientific department, his work there being computations and estimates of stability, strength, etc. He then returned to Technology and has been since in its service, first for two years as assistant, then for six years instructor in naval engineering, and, since 1911, assistant professor.

In addition to his regular work, Professor Everett interested himself during summer seasons with occupations in line with this, spending one season with the Light House Engineers in Philadelphia and a second in the yard of William Denny & Brother of Dumbarton, an unusual privilege, Sir Arthur Denny stating that only one other American had ever been permitted to do this, and that one was Admiral Bowles. A third summer was spent in charge of one of the army engineering parties engaged in surveying the lower reaches of the Ohio River. Other summers were occupied in the experiments with the Tech navy, the *Froude* and the *Fulton*, of which he had charge under Prof. C. H. Peabody, with exceedingly interesting and important results.

For four years Mr. Everett has been official yacht measurer for

all the major eastern clubs, and in the course of this work he has developed a number of new methods and new measuring devices. One of these is a quarter beam calipers, a labor saving device for boats of ordinary dimensions, and for draft measurements he worked out a hypothenuse method of catching a rod to the keel and measuring its angle and its distance from the hull. He suggested and used ordinary surveying methods for determining lines of boats on the ways, setting up his transit on a base-line and taking angles and distances. In one instance he detected an error of one eighth of an inch in the painted water line of a boat.

He also adapted the chronograph to boat testing, an instrument that records time, revolutions of the screw, marks the completion of a cycle of the work and in the case of the *Froude* shows the amount of thrust.

The observations with the *Froude* and the *Fulton* have already been described. These were the little Technology boats in the Charles River Basin, boats which were floating laboratories where fuel consumption, power production and transmission and losses of various kinds were investigated, together with effect of form of hull, place of propeller, etc. The *Froude* showed that steamships in general are carrying their propellers in not the most efficient place, while the *Fulton* furnished facts about towing and dispelled the fancy of tow-boat constructors, that steel is not applicable to these boats.

Professor Everett's published papers include "Tests on the S. S. *Harvard*," "Effect of Waves on a Traffrail Log," and "The Stability of Life Boats," while another in press is a consideration of sails, the experimental portion of which was carried on at the M. I. T. Areodynamical Laboratory in Cambridge, the first experiments of the kind to have been made anywhere.

The position to which Mr. Everett goes has been established at the academy for men who have been at sea for three or four years since graduation. It has had two previous incumbents, but is now enlarged in its scope and a naval architect appointed, the previous men having been mechanical engineers.

WILLIAM ROBERT WARE—1832–1915

Tributes of affection and appreciation from some of his friends and former pupils

William Robert Ware was born in Cambridge, Mass., May 27, 1832, and was the son of the Rev. Henry Ware, Jr., and of Mary Lovell Ware. His ancestry was of that fortunate character which left a heritage of high ideals to its children. Graduating at Harvard in 1852, he later received a degree of bachelor of science in 1856 and was honored by the university with the degree of LL.D. forty years later.

He began the practice of architecture in Boston in 1860 and continued the work of his profession in partnership with Mr. Henry Van Brunt until he was called to New York in 1881. Many houses in the portion of Boston which was built in these two decades show the refined quality of his design, and Harvard University is indebted to him for its Memorial Hall. In 1865 he was called to the chair of the professorship of architecture at the Massachusetts Institute of Technology and practically founded the first great school of architecture in America. The development of that school, which has led to the formation of so many others, was in his hands.

Through his acquaintance with architects abroad in England and in France, he was able to obtain early foreign recognition of the school, and to him is due the installation of a Beaux Arts graduate, Mons. Eugene Letang, as the first of the French instructors of design in an American architectural school.

In 1881 he was called to the chair of architecture at Columbia College, New York, and again founded a great school, at the head of which he remained until he retired as professor emeritus in 1903. Many of the most distinguished architects in America have been his pupils, and all have honored him. His interests have been world-wide, and his profession has recognized his eminence by constituting him an honorary member of the Royal Institute of British Architects and a member of the National Academy of Arts and Sciences.

The influence of a fine personality is one of the most pervasive powers in the world, stimulating effort, forming character, and

Professor William R. Ware

(Taken in the Eighties)

creating mental health as surely as sunshine builds up life. When this personality is not expressed by alternations of effort and of inactivity, by contrasts of action and of release, but is constant and even in its quiet maintenance of high ideals, association with it is a subject for the deepest gratitude. Professor Ware infused into his teaching his own ideals, all the more convincingly that he did so naturally, unconsciously, with no proselyting spirit, but because they were a part of himself. The material rewards of his profession were ignored, as it never occurred to him that they were of major importance.

Architecture was to him a noble art to be approached with devotion; and without preaching he placed his pupils upon a plane from which in after years it was impossible for them to descend without sacrificing a birthright.

It was also to him an all embracing art which held intimate communion with painting, sculpture, music and literature, with history, poetry and the *belles lettres*. He considered that "next to a university education, the most liberal education was that of architecture." By his own example, and by a delightful subtle indirectness he led many to eclectic study who would otherwise have walked the straight and narrow path of a walled-in specialty.

His active, catholic, and kindly interest in the highest things of life cultivated his students, yet there was no pedantry, no homily, but instead a brightening of subjects which threatened to become stale or tense, with sensitive humor and epigram.

And above all things he had an ability in helpfulness which is accorded to few men and which endeared him to many.

An architect of excellence, an educator of eminence, his influence remains a power to his successors.

C. Howard Walker.

The Review is in receipt of a number of letters, from friends of Professor Ware, which are appended herewith.

My recollections of Professor Ware must go farther back than those of any one now associated with the Institute. It was he who first inspired me with the idea of becoming an architect, and it was as far back as in 1864 that I entered his office—Ware and Van Brunt—a student for two years, staying on one more as draughtsman.

It was during this last year that the Institute of Technology, deciding to offer a course in architecture, appointed Mr. Ware its professor, and gave him a short year in which to find the necessary equipment for a start.

In the meantime I had gone to Paris for further study and with R. S. Peabody and C. F. McKim was living happily in the Latin quarter. Here Professor Ware, who in his quest for architectural material had turned first to France, joined our party for the short time he remained in the city. We rarely met him except in the evenings, when he had much to say of the strenuous life he was leading in interviews with the Fine Arts government officials, as well as with practicing architects of note. He had little or no money to spend, but he had an earnestness and enthusiasm that could not be denied. He seemed to have obtained everything he asked for—the superb publications of the government, the beautiful drawings of the Prix de Rome men, as well as the interesting work from architects showing their methods applied to practice.

It was an ideal collection for the nucleus of his library, and as it increased from day to day, we greatly enjoyed those evenings spent with Professor Ware who had always something new to show, which was a delight to see, as it was to listen to his always entertaining and witty talk.

He left us, to our regret, to meet in England with as warm a welcome as he had received in France.

When I returned to America in 1869 the new department was in a very flourishing condition. Its success was already assured, but it had laid an incredible amount of work on Professor Ware's shoulders. He was giving the lectures on architectural history, and on practice. He was carrying alone the classes in design—perspective and some architectural descriptive geometry were subjects in which he was greatly interested, and which must come under his instruction or not be given at all.

At that time the poverty of the Institute demanded such strict economy that every instructor was forced to carry a burden that would make the member of a labor union wince. But in addition to all this, Professor Ware had a new department to form for which there was no precedent, and for which the curriculum of the Institute was unprepared.

He had already determined that this new course should be based on the French method, but there was a great amount of adjustment,

and matters of expediency to be considered in adapting the regular studies of the Institute to the particular needs of the new department, and during this transformation the class and lecture rooms must show no signs of any disturbance.

I became Professor Ware's assistant during his second winter, after which I was obliged by business arrangements to leave Boston, but this short stay with Professor Ware enabled me to appreciate more fully the extraordinary difficulties of the task he had undertaken, and the wisdom he had displayed in meeting them. His keen judgment, skill, and outlook were ever in evidence, and what besides contributed to his success were his very human qualities of kindly appreciation of others, and of inspiring their best efforts. I never remember hearing from him an impatient word, or one of discouragement. He seemed never to consider the possibility of defeat, nor was he ever satisfied with success. Nothing was so good that it could not be improved. He was an indefatigable worker, and never seemed to rest from his labors.

The advent of Professor Letang brought relief to Professor Ware, but relaxation from work he did not accept. There were always the old courses to improve and adapt to the changing conditions of the times, as there were new ones to consider for the same reason. He would not be caught napping.

When he left Technology to organize another school for Columbia, the one he left was known throughout the civilized world, and recognized as among the best.

In going to the University of Columbia in 1881, Professor Ware's experience gained at the Institute combined with the wealth of Columbia gave him an opportunity which he was as happy in meeting as he was in overcoming his earlier difficulties, and his success there was as sound and complete as at Technology.

It might well be said that the organization and building up of one such school would be sufficient test of any man's abilities, but here we see that there can be such a rare combination of wisdom, character and self-consecration in a single man to show why such success came to Professor Ware.

F. W. Chandler.

Those who had the privilege of studying under Professor Ware will always feel that they were specially favored. His fund of knowledge, the genial and attractive way in which he imparted it

and his untiring patience with even the most backward of "his boys" as he called us, won for him their universal love and devotion. His was a personality that will be greatly missed.

JAMES KNOX TAYLOR, '79.

It was my great privilege and happiness to know Professor Ware intimately for a period of thirty-four years; as a student in his classes, as his secretary, as an instructor in the school under his direction, and, from 1891, as a professor associated with him.

Others will write of him as an architect and as a remarkably sympathetic and successful teacher. To me he stood almost as close as a father, or older brother, generously and wisely advising me at every step and helping in many ways to supply me with something like an academic education which I had had the misfortune to miss before entering the professional school.

More, much more I might say, but this is sufficient perhaps. I am proud to know that he had an affection for me: I know how deeply I loved him.

FRANK DEMPSTER SHERMAN.

There have been many spontaneous tributes to the memory of Mr. Ware from his friends and former pupils. They have spoken of his sympathetic relations with young men and we older students can recall those early lectures and friendly talks when we learned many things besides architecture. We felt that he really cared about our opinions and about us, and his memory is cherished by those who were under him both in Boston and New York.

I well remember when a callow youth, just after a course in architecture at the Institute, being able to take a first trip to Europe, I was invited to dine at his club and after an enchanted evening of glowing talk he pulled from his pocket a number of those little envelopes with notes of introduction to celebrated men in Paris or London, and this unexpected attention, combined with the friendly chat and advice, sent me off with such a warm spot in my heart for him that it has never cooled off. Later on, in the early 80's, we traveled together on horseback in Asia Minor, visiting Troy and other ancient sites and our early friendship was again cemented by the days of companionship in those interesting lands. Again in New York with another youthful circle around him, ex-

cursions were taken to various points of architectural or other interest. There were suppers at the beach, adjournments to his rooms where were again suppers as well as songs and pleasant talk. It all seemed a part of the wise direction of youth.

He was often asked to dine out and he once recounted with glee, how he had determined, whenever invited to dinner, to put the money he would otherwise have spent into a purse and to use this fund to treat himself and friends to the theatre, of which he was very fond. In after years the various bands of young men returning from studies abroad, or from distant points in our own land, would journey to the little brown house in Milton and tell their tales.

So a rare teacher and friend has passed away. May the youths of the future find such another to take his place.

FRANCIS H. BACON, '77.

Not alone the two great schools of architecture which he built up but many others, directly or indirectly, owe to Professor Ware a debt of gratitude which cannot be measured, but I value the opportunity to at least acknowledge it on behalf of the University of Pennsylvania, for the man and his work were an inspiration and example of inestimable value to me during the difficult early stages of the development of a new school of architecture in this institution. Out of the rich stores of his experience he gave freely of suggestion, counsel and admonition. Everything that he knew was at the service of his younger colleague.

And with what tact and grace was the help given!

Indeed it seemed to be these qualities which won strangers to him on first contact and formed the lasting basis of his countless friendships. And these were fostered by a personality so rare that one is fortunate to encounter it even once in a lifetime. For it combined infinite goodwill, geniality and optimism with a fine mentality, a stimulating eagerness to learn and to impart, a delicate and delightful humor; and a very human catholicity of interest combined with a fastidious taste.

Such qualities made of him a model and an inspiration to younger men and explain his extraordinary influence over generations of the students prepared under his direction for the profession he so honored in his own life and practice.

Any appreciation by a fellow architect would be incomplete without reference to his influence in another direction, for he led in the reform of architectural competitions at a time when they were little better than a tool in the hands of the unscrupulous and a plague to the profession. The fairness and efficiency of present standards probably owes more to his pioneer leadership than to any other single influence.

WARREN P. LAIRD.

It is a pleasure and yet it is difficult to write as one would about Professor Ware. It is a pleasure to bear one's tribute to the memory of the teacher and the friend—the teacher and the friend of a long succession of pupils who have been proud to look up to him—but it is difficult to express adequately the reverence and the affection without seeming to trespass on that delicate reserve which was characteristic of him and which in speaking of him one would like not to transgress.

Mr. Ware was the real founder of American architectural education. Professor Babcock at Cornell began his work at about the same time—indeed I believe a year or two before—but Mr. Ware's work in the establishment and conduct of the department of architecture at the Massachusetts Institute of Technology laid down the main lines of development on which our schools of architecture have traveled ever since, and this was largely so, not only because these lines were wisely laid down after a careful study of French educational precedents and American conditions, but because also in a very real sense he became the father of most of our leading schools of architecture. It is noteworthy to what an extent these schools have been in the conduct of his pupils, or pupils of his pupils, and he was always ready and generous with council and assistance in every new educational endeavor. In 1881 he was called to Columbia University to found there the school of architecture, which he continued to direct until his retirement from active work. His keen interest and his sympathetic and wise advice and encouragement in the beginnings of the School of Architecture at Harvard are to me a very precious memory. How very much I owe to this advice it is not easy to say, and there are others teaching in other schools of architecture who would say the same. He was eagerly interested in educational experiment, perhaps even too much so, and was constantly trying new and ingenious, and

often helpful and stimulating devices for shortening the labor of learning, for impressing facts in the memory and for provoking on the part of the student a thoughtful analysis of the subject in hand. Mathematical expedients interested him particularly and led to his exhaustive treatises on perspective and on shades-and-shadows.

This experimentation did not stop with his teaching, nor was it confined to subjects directly connected with architecture. He devised what to me seemed a more ingeniuus and stimulating method of beginning the study of Latin. He applied this method during his last years in New York for the benefit of some young men, his former pupils, and it was characteristic that the book chosen to begin the study of Latin was Vergil's Eclogues. This method he worked out more completely during recent years.

Mr. Ware took also a leading part in shaping the conduct of professional competitions, and probably aided more than any other one man in building up and strengthening a wholesome professional opinion in this respect, in formulating definite standards based on a clear statement of principles and in bringing about the general acceptance of these standards by the profession and by the building public. During long years he acted as professional adviser in most of the important architectural competitions. These are important titles to the lasting gratitude and recognition of the profession. In artistic education, apart from architecture, he took a leading part, especially in Boston in connection with the School of Drawing and Painting of the Museum of Fine Arts of which he was one of the trustees.

To his many pupils, however, the personal debt, the feeling of affectionate regard, the memory not only of valued instruction but of sincere friendship, of stimulating intercourse full of wise and witty sayings, of encouragement and guidance in difficulties large and small, these are the things that come first to mind in thinking of Mr. Ware, and by these his pupils will love most to remember him. His personal advice was seldom of the positive kind. He preferred to illuminate a situation by setting forth clearly, often in quaint guise, the pros and cons, leaving one free to draw one's own conclusions and to reach an independent decision. When his council was definite—and he had clear convictions—it came with the greater force, always set forth quietly and with carefully reasoned statement brightened by flashes of humor. Often he would seem to keep serious subjects at a distance by swift epigram and

waggish paradox of which he was fond, and which always threw a scintillating light on the subject under discussion. He liked to reverse homely proverbs. "Never do today what you can *just as well* put off till tomorrow." "Never do yourself what you can *just as well* get someone else to do for you" were among his sayings. Many of his old boys will remember how at one of our dinners at a time when the name of Queen Anne was taken in vain and applied to all sorts of architectural horrors—"anything that's just odd" as an old builder once said to me—Professor Ware sang (he quoted to me once "'*Cave cancen*'—beware or I'll sing")—to the tune of the Heavy Dragoon":

> If you want a receipt for that popular mystery
> Vulgarly known as the style of Queen Anne
> You must carefully learn architectural history
> And then—misremember as much as you can.

With many more verses of the same type.

One would fain transmit to the younger generation of architectural students some sense of the kindly presence, the delicate humor and especially the innate and simple dignity, the serene high-mindedness which seemed to take virtue and honor for granted, and the breadth of interest which insisted that the architect should first of all be an educated gentleman, and in so doing one would express the hope that these characteristics might more and more become those of the profession to which he gave his whole life with such single-minded devotion.

H. Langford Warren, '79.

My memory of Professor Ware is of a loving, gentle, kindly friend, a safe guide, a wise counselor and a most charming companion.

It is not too much to say that in his long life and career he was one of the most potential factors for good in American architecture.

Cass Gilbert, '80.

WHEN WE WERE FRESHMEN

Reminiscences of serious or humorous experiences of Alumni during their student days at the Institute

My first recollection of being at the Institute as an enrolled student is of standing in the entrance hall of Rogers, green, lonely and disconsolate, studying the notices on the bulletin board, when a tall, lank fellow, who looked to me like a man of mature years, accosted me with the demand that I should subscribe to *The Tech.* It was more than a suggestion or an appeal, so I say "demand" and it was made so impressively that I gave up two dollars right away. This very able solicitor, who "touched" me so expertly, was in later years my friend Bunce, but in the days whereof I write I was some time in learning his name and it was not until much later that I became acquainted with him.

I think that this incident may have had something to do with interesting me in *The Tech* and leading me to become a contributor later on. In my second year, when *The Tech* was in its second volume, I think, I was invited to join its editorial staff. I imagined that this was an honor, but I found it was really a request to take off my coat and go to work; and hard work was what we had to do in those days in order to keep the paper going. Arthur Little and Ike Litchfield know all about this, for they were the mainstays. If it had not been for them *The Tech* would have died a "bornin." What I was able to do to keep the thing going was only a mite. However, many were the anxious consultations that we had in our office, which was a little room to the right of the main entrance of Rogers', scarcely more than a closet, but we had much pride in having a place of our own. I have forgotten whether we had this up to the time I left M. I. T., but anyway it was subsequently appropriated for other purposes. In my senior year I was chief editor of *The Tech;* before that time, under Tom Fry, it got soundly on its feet, so I had no particular troubles then. It was interesting work and useful training.

But to return to freshman days, the Institute in 1882 possessed only Rogers Building, an old gymnasium which was being removed to make room for the new building, that was subsequently, but not

in my time, named Walker Building, and a new gymnasium on Exeter street. One of the main purposes of the gymnasium was to serve as a drill hall. We freshmen generally detested the requirement for military drill, that is to say, all of us except those who were officers, but the number of them was few, barring the sergeants and corporals. The major and captains and some of the lieutenants were sophomores who had a liking for military exercises, and returning for a second year naturally appropriated about all of the commissions. I have always felt that we made a great mistake in not paying more attention to military drill, which I believe to be a good part of the training for an engineer, more important, in fact, than some of the things that we used to take under the professors, but in my time the military training was made very unattractive and most of us regarded it as something merely to be endured, to be done perfunctorily, and to be dodged whenever possible.

One of the great events of the fall of 1882 was the controversy between the class of 1885 (the sophomores) and the class of 1886 (the freshmen) over the matter of a freshman ball. Some years previously the freshman class has been wheedled or ballyragged into giving a grand ball to which the sophomores were invited, and this had become a tradition. In college life it takes only a few years to create a tradition. A custom prevailing for five years is considered "to have always been" while one of ten years' duration goes back to the days of antiquity.

Now the class of '86 comprised a lot of independent and thoughtful fellows. When the intimation was received that '86 ought to be getting busy about the freshman ball some of these fellows, who were not even from Missouri, asked "why a freshman ball, anyway?" It seemed to them that the cart was put before the horse in expecting a lot of green, lonely freshmen, who scarcely knew each other, to give a grand ball for the pleasure and entertainment of the sophomores. If the sophomores should give a ball to the freshmen, in order to make them better acquainted, that would be more rational, thought many of '86. However, there were some who argued that tradition should be respected, so there was a lively controversy in the class, but, in the meeting which settled the matter, the anti-ball party won, and a venerable tradition of the M. I. T. was thereby dissolved.

The general impression remaining on my mind is that freshman

days at the Institute in the middle '80s were a dreary grind. Studies did not become of lively interest until later, but I have a vivid recollection of General Walker's illuminating lectures on economics and I have ever been thankful that I had that privilege.—W. R. INGALLS, '86, Editor of the *Engineering and Mining Journal*, New York.

A Class Day Innovation

A new form of class day exercises was tried out this year, and it proved to be an improvement over previous programs. The opening procession included the entire class, which entered by courses, each course being led by a banner bearer costumed to represent the course. The performance was on the order of a pageant, the banner bearers taking their places on the stage, which was decorated with foliage and blossoms. The seer, who was the master of ceremonies and who was attired in cardinal robes with a gray "15," climbed to a lofty throne at the back of the stage, and, gazing into a large crystal globe on a pedestal before him, unfolded the secret records of the past, as well as prophecies of the future. This gave an opportunity to introduce President Dalton, who made an address of welcome, and Frank P. Scully, who paid a high tribute to retiring Prof. Arlo Bates and spoke of the importance of undergraduate activities in developing the students. He emphasized to his fellows that the class is more than a mere gathering of undergraduates and that it is the duty of each man to make class spirit a living and virile force. These two addresses compassed the serious features of class day. The following events included an impersonation of one of Professor Cross's lectures, and also one of Dr. Dewey's lectures. The caricatures were by no means underdrawn, but some of the touches brought quick response from an audience consisting largely of Technology men.

The scenario of the performance was intended as a history of the class in epitome. There was a freshman in short trousers; a freshman dinner at which the dean made a speech which, of course, was comically caricatured, the whole program ending in a prophecy conducted by half a dozen of the members who called unexpected victims onto the stage and put them through a series of awkward questions relating to matters of the past that kept the audience in roars of laughter.

CHANGES IN THE INSTRUCTING STAFF

The Corporation authorizes many promotions, appointments and reappointments

The following appointments, reappointments, resignations and other changes, recommended by the Executive Committee, were confirmed at the meeting of the Corporation June 4.

PROMOTIONS. Associate Professor Henry G. Pearson appointed professor of English and placed in charge of the department upon the retirement of Professor Bates at the end of the academic year; Associate Professor Archer T. Robinson appointed professor of English; Assistant Professor Robert P. Bigelow appointed associate professor of zoölogy and parasitology; Assistant Professor W. Felton Brown appointed associate professor of freehand drawing; Assistant Professor Harold A. Everett appointed associate professor of naval architecture; Assistant Professor H. R. Kurrelmeyer appointed associate professor of German; Instructor Henry B. Phillips appointed assistant professor of mathematics; Assistants Kenneth C. Robinson and George H. Clark appointed instructors in mechanical engineering; Assistant John E. Bird appointed instructor in mechanical drawing and descriptive geometry; Assistant Leicester F. Hamilton appointed instructor in analytical chemistry; Research Assistant Ruth M. Thomas appointed research associate in organic chemistry; Research Assistant Clair E. Turner appointed research associate in sanitary biology, and instructor in biology; Research Assistant R. H. Dickson appointed instructor in industrial chemistry.

APPOINTMENTS. Frank Aydelotte, professor of English; Barnum B. Libby, instructor in mathematics; Walter A. Patrick, instructor in theoretical chemistry, for one year; Clark S. Robinson and Frederic H. Smyth, instructors in inorganic chemistry; George Rutledge, instructor in mathematics; Harry R. Tosdal, instructor in economics, for one year; Allen Abrams, Donald Belcher and Burnham E. Field, assistants in analytical chemistry; Philip L. Alger, George O. Eaton and Albert V. De Beech, assistants in electrical engineering; Francis C. Atwood and Roscoe G. Dickinson, assistants in theoretical chemistry; L. A. Bigelow, Jr., and John N.

Dalton, assistants in organic chemistry; Alton A. Cook, assistant in food analysis; Martin W. Cowles, assistant in chemistry of sanitation; Louis Wade Currier, assistant in mining engineering and metallurgy; Forest J. Funk, assistant in biology; Walter J. Hauser and Herbert H. Whitcomb, assistants in mechanical drawing and descriptive geometry; Clifton N. Jacobs, assistant in inorganic chemistry; Ida D. Loring, assistant in architecture, for one year; Albert C. Brown, Alan S. Dana and R. J. Wiseman, research assistants in electrical engineering; Norman D. Doane, research assistant in food analysis; Charles H. Rosenthal, Robert V. Townend and Donald A. White, research assistants in applied chemistry; L. D. Caskey, special lecturer in European civilization and art, for the first term.

REAPPOINTMENTS. *Instructors*: James M. Barber, civil engineering; Joseph Blachstein, modern languages; Frank A. Brown, forging; Jesse J. Eames, mechanical engineering; Justus Erhardt, modern languages; Charles Everett, architecture; Thomas G. Goodwin, English; F. L. Hitchcock, mathematics; H. P. Hollnagel, physics; E. B. Homer, architectural history; A. S. Jenney, architecture; William H. Jones, mechanical engineering; James R. Lambirth, mechanic arts; Israel P. Lord, architecture; Howard B. Luther, civil engineering; N. S. Marston, electrical engineering; George R. B. Meister, modern languages; E. B. Millard, inorganic chemistry; Dean Peabody, Jr., mechanical engineering; Otto R. Schurig, electrical engineering; Martin J. Shugrue, economics; Percy G. Stiles, biology; C. Hale Sutherland, civil engineering; C. Howard Walker, the history of ornament; William H. Wengert, mechanical engineering. *Assistants:* L. D. Caskey, history; Alden B. Chamberlain, inorganic chemistry; Chester A. Corney, Gerald R. Butz, Albert V. DeBeech, George O. Eaton and A. E. Hanson, electrical engineering; W. H. J. Kennedy, history; Frederick O. Stillman, mining engineering and metallurgy; Hiram Y. Waterhouse, technical analysis; H. O. Taylor, research associate in electrical engineering; James H. Ellis, research associate in physical chemistry; H. A. Affel, research assistant in electrical engineering; Tsun Chang and Frank W. Hall, research associates in physical chemistry; Pei Hwang Hsu, research associate in the chemistry of sanitation; D. J. McGrath, research associate in electrical engineering; O. R. Schurig, research associate in electrical engineering and secretary of the division; E. W. Chapin, research associate in elec-

trical engineering and assistant librarian; Arthur C. Melcher, purchasing agent of the chemical department; Charles E. Cole and Robert Stoddart, lecture assistants to the professors in chemistry; Elof Benson, lecture assistant to the professors in physics; Edward F. Rockwood, special lecturer on concrete design; Charles R. Gow, special lecturer on foundations.

The title of Professor Kennelly as chairman of the Research Committee in the Department of Electrical Engineering to be changed to director of the Research Division in that department.

New Register of Former Students

The new *Register of Former Students*, which has just been received from the press, is by far the most complete register that has ever been published. In addition to the geographical index, there is a class index which will be found extremely useful and will be a boon to class secretaries. In the back of the book is a list of the Technology alumni associations with a list of officers and a brief history of each organization. The last two pages of the book contain a list of graduates who have been recommended by the professors of military science of the Institute to the United States Department of War for proficiency in military science. The list is published at the request of the War Department. The *Register* contains 720 pages. The last *Register*, which was published in March, 1912, contained 536 pages. The book contains about 15,000 names.

Pacific Technology Clubs Associated

At a recent dinner of the Technology Association of Northern California it was voted to hold a banquet during the time of the Engineering Congress and make a special effort to get a large number of visiting Technology brethren to attend. Representatives of the different Pacific Coast organizations are expected to be present, and reports will be made of Technology interests on the coast. The date of the dinner cannot be definitely set until the program of the Engineering Congress has been announced. It will be out, however, during the week of September 20–25, and announcement will be made by the secretary of the club, George E. Atkins, '04, Hobart Building, San Francisco.

TEMPLES OF TECHNOLOGY SPIRIT

How the local Alumni Associations are making the Institute known and respected between the two oceans

THE TECHNOLOGY CLUB OF ROCHESTER.—The current year has proved a most successful and interesting period for the Technology Club of Rochester, due in a large measure to the spirit of coöperation and good fellowship, created in promoting the concert by the Musical Clubs.

On October 26, the annual dinner of the club was held at the Hotel Rochester, with twenty-two members in attendance. The election of officers for the present year gave the following results: President, W. E. Hoyt, '68; first vice-president, J. H. Haste, '96; second vice-president, Adolph Lomb, '88; secretary-treasurer, C. E. Meulendyke, '10; executive committee, H. H. Tozier, '96, C. C. Culver, '96, H. O. Stewart, '09.

William E. Hoyt is a member of the first class graduated from the Institute, and has held the office of president of the local club since its organization in 1910. A vote of thanks was taken for the retiring officers, consisting of F. W. Lovejoy, '94, A. S. Crocker, '97, and J. F. Ancona, '03, who for five years have held the offices of first vice-president, second vice-president, and secretary-treasurer, respectively, and who have given so much of their time and energy to the success of the club. Application for membership from J. T. Barnes, '05, A. A. Packard, '98, and G. B. Reynolds, '10, was received and voted upon favorably. The most important business considered at the meeting was the possibility of entertaining the Musical Clubs on their mid-year trip. The balance of the evening was spent in singing Tech songs, and in informal discussions.

Later on in November, a bowling party at the Rochester Club brought out an attendance of thirty-two men. At a short business meeting, preceding the "strong-arm" work, J. H. Haste presented the matter which culminated in what is known as the "Rochester Alumni Experiment." B. C. Hopeman, '00, who made a special trip to Boston, supplemented Mr. Haste's remarks. As a result, the club voted to pledge the amount of $150 to be used for

the expenses of this experiment during the second semester of the current year. In addition, the following general committee composed of the executive committee and the chairman of special committees was appointed to assume charge of the concert and dance: W. E. Hoyt, '68; J. H. Haste, '96; A. Lomb, '88; C. E. Meulendyke, '10; C. C. Culver, '96; H. O. Stewart, '09; H. H. Tozier, '96; F. W. Lovejoy, '94; J. F. Ancona, '03; L. E. Dodge, '01; W. S. Lucey, '07; A. F. Sulzer, '01; W. G. Bent, '05; B. C. Hopeman, '00; A. S. Crocker, '97; and J. T. Barnes, '05.

Owing to the war and the general business depression (psychological or otherwise) it was with some doubt and trepidation that the club undertook to sponsor the concert by the "Musical Engineers," but the strong organization of committees and the spirit behind the club soon guaranteed the success of the effort. The initial sale of tickets was so strong that we were soon forced to curtail the sale on account of the dancing capacity of the hall, and in many cases we experienced the unusual spectacle of having our friends beg for tickets instead of employing the time-honored "steam-roller "method of disposing of them. We entertained over six hundred guests in the ball room of the Hotel Seneca. The Tech boys gave us an unusually good program, and the zest of the dancing may be commensurated by the forty gallons of punch consumed (no stick either).

On June 2, we held an outing at Newport on Irondequoit Bay. Some thirty-five of us left Rochester at 5 o'clock in the afternoon, reaching our destination by automobile in time to work up an appetite for dinner in an in-door baseball game. B. C. Hopeman, '00, and J. P. Barnes, '05, were appointed captains of the two teams. The game was featured by heavy hitting by both sides, necessitating three concentric rows of fielders. F. C. Cole, '91, distinguished himself in a magnificent slide from second to home, ending up by standing on his nose in several inches of dust. The umpire, C. C. Culver, '96, kept the game well in hand more through his genial smile than an intimate knowledge of the fine points of the game.

After the informal dinner and "song-fest" R. H. Howes, '03, of the New York Technology Club, and I. W. Litchfield, '85, proceeded to bring our knowledge of Institute affairs to date in a very interesting way.

Early in the summer, another opportunity will be afforded us

to get together at the "All College Picnic," an annual event in which the college men of Rochester turn out in large numbers in behalf of their respective institutions, and in which Technology is always particularly well represented.—*C. E. Meulendyke, '10, Secretary, 21 Culver Road, Rochester N. Y.*

Technology Club of Puget Sound.—The Technology Club of Puget Sound has held two recent luncheons in honor of visiting Tech men, the first of which was tendered to Merton L. Emerson, '04, Bradley Stoughton, '98, and Prof. J. W. Richards of Lehigh University. On May 21 W. C. Edes, '75, chairman of the Alaskan Railway Commission, was the guest of honor. Mr. Edes is at the head of the great railroad project in Alaska and makes Seattle his stopping place on his way to and from Alaska. He is very much interested in Technology affairs and enjoys meeting with Tech men. At this luncheon he described the work to be done this year and told of the plans for the coming summer. At this same meeting Maurice P. Anderson, '10, was elected president of the Technology Club of Puget Sound and Joseph Daniels, '05, was reëlected secretary-treasurer. Mr. Anderson is connected with the Anderson Supply Company, the headquarters for Tech men in Seattle during the coming year. Our luncheon place has been changed to the Commercial Club in the Arcade Building, corner Second avenue and Union street, Seattle. Luncheons will be held regularly during the summer on the third Friday of each month and we hope that any men present in the city will visit us at that time.—*Joseph Daniels, '05, Secretary-Treasurer, University Station, Seattle, Wash.*

Technology Club of Albany.—On May 13, 1915, the annual dinner and meeting of the Technology Club of Albany was held in the house of the University Club in the city of Albany.

After the dinner, the annual meeting was called to order by President Horton. Reports were received from the lecture committee and others. It was decided to continue the work of the lecture committee during the season of 1916.

The president and vice-president were appointed a committee to arrange for regular Tech lunches to be held once a week in both Albany and Schenectady. Notice of these dates will be given later.

Officers for the year 1915–16 were elected as follows: President,

R. C. Robinson, '01; vice-president, Russell Suter, '00; secretary-treasurer, N. J. Kingsbury, '02.

The Technology Club of Albany has an informal organization and no dues. All Tech men near Albany and Schenectady are considered members and should see that the secretary has their names and addresses so that notices of the meetings may be sent them. —*N. J. Kingsbury, '02, Secretary, General Electric Co., Schenectady, N. Y.*

Washington Society of the M. I. T.—The last meeting of the Washington Society of M. I. T. was held April 13 at the Home Club where a lecture on the drainage of swamp lands and the relation of such lands to the locating of war immigrants was given by Marshall O. Leighton, '96, who showed many pictures of the lands and the methods used in reclamation.

At that meeting the Constitution of the society was changed, raising the annual dues to $2.50 and making those who signified their desire to be active members and paid dues, in fact active members. Notices to this effect were sent out and a number of responses received; but we hope to hear from others of our number and hope those who see this and have neglected to send in their cards will do so.

It is proposed to hold at least five meetings each year; one of these to be an annual banquet, and the expenses of such meetings, except for the annual banquet, are to be met from the dues and to include refreshments.

At the April meeting a committee, comprising Dr. E. B. Phelps, '99, and William H. Keen, '05, were appointed to look into the possibility of having a Tech club house in Washington, and are now working on the subject.

There are plans on foot for a canoe trip and corn roast toward the end of this month and it is hoped a large attendance will be had, and that ideas may be forthcoming on which to base an active, enthusiastic program for the coming year. Who were there in April? You should have been there and found out yourself, but the following were present, though about everything in town appears to have arranged for the same date, April 13. Present at roll call: H. S. Bailey, '06; W. M. Beaman, '89; Benedict, '14; H. G. A. Black, '10; S. S. Gannett,' 84; F. W. Grover, '99; B. L. Johnson, '05; M. O. Leighton, '96; H. M. Loomis, '97; O. C. Merrill, '05; W. E. Parker, '99; E. B. Phelps, '99; M. B. Landers,

'05; F. T. Schneider, '91; G. H. Shaw, '04; H. L. Shoub, '13; S. F. Smith, '85; F. C. Starr, '05; G. W. Stose, '93; F. W. Swanton, '90. If you see some friend's name above come and renew the friendship; if some stranger's, come and get acquainted. If you don't like what we have written come out and give us doings that will make the REVIEW readers sit up and take notice. —*H. G. A. Black*, '10, *Secretary U. S. Patent Office, Washington, D. C.*

TECHNOLOGY CLUB OF RHODE ISLAND.—The annual dinner of the Technology Club of Rhode Island was held at the University Club, Providence, on Tuesday evening, May 4, 1915, being one of the most enthusiastic gatherings of the year. The nominating committee presented a report recommending that the present officers be reëlected, which was acted upon as follows: President, William C. Dart, '91; vice-president, Zenas W. Bliss, '89; secretary-treasurer, Clarence L. Hussey, '08; members executive committee, Arthur E. Hill, '81, and Edward D. Pingree, '96; representative Alumni Council, Eleazer B. Homer, '85.

President Dart acted as toastmaster and first called upon Hon. Zenas W. Bliss, for the opening address, who with characteristic humor, delivered an interesting account of the history of the Rhode Island Technology Club, and concluded in more serious vein, urging the members to support the committee during the coming year, and to keep in touch with Institute affairs.

The chair then called upon Dean Alfred E. Burton, of the Institute, who was the guest of the club, who discussed Institute affairs, particularly with reference to the present day social life at the Institute. Mr. Burton's remarks were received with much interest by the older alumni, who noted the great change in the social life of the student as compared with former years.

Mr. Harry Gay, engineer in charge of equipment of the new Technology buildings for the Stone and Webster Engineering Corporation, delivered an entertaining and instructive talk on the construction of the new Institute, illustrated with numerous slides and diagrams. Mr. Gay's lecture was much appreciated, as few of those present realized the magnitude of the work.

During the evening the Institute Glee Club quartet rendered selections, which received well deserved applause.

Among those attending the meeting were Messrs. Bliss, '89,

Roland H. Ballou, '04, Benson, '99, Buttolph, '88, Clapp, '99, Dart, '91, Dickerman, '05, Fisher, '09, Roger Freeman, '13, Hill, '81, Homer, '85, Hussey, '08, Kennison, '08, Gates, '02, C. A. Lord, '06, Mackenzie, '11, Morey, '11, MacLeod, '14, Pierce, '89, Pingree, '96, Read, '04, K. C. Richmond, '90, Simmons, '04, Starr, '02 Stimpson, '77, and Tillinghast, '70, and several guests.—*Clarence L. Hussey*, '08, *Secretary-Treasurer, Fruit Hill, 1547 Smith Street, Providence, R. I.*

The Cincinnati M. I. T. Club.—The Cincinnati M. I. T. Club are now making preparations for the summer outing which will no doubt be a very interesting affair, including a trip on the Ohio River, with swimming, etc.; baseball, and nourishment.

John Hargrave, '12, has just returned from his honeymoon trip to the coast, and with his bride is now located in their new home in Berry avenue, Hyde Park, Cincinnati.

Garber, '03, and Woodward, '03, have been commissioned to draw the plans for the new East Hill High School, and for the New Thought Temple on Walnut Hills.

Tietig, '98, and Lee, '98, have moved into new offices in the Fourth National Bank Building, Fourth avenue.

The luncheons at the Bismarck Cafe on Tuesdays will be continued through the summer and Tech men in Cincinnati will be welcomed.—*Edward H. Kruckemeyer*, '11, *Secretary, 111 East 4th Avenue, Cincinnati, Ohio.*

Technology Club of Philadelphia.—In answer to mobilization orders, thirty-two members of the Tech club presented themselves for the first meeting at the Engineers Club on April 22. The dinner was made merry by informal singing and childlike antics evidenced by the wearing of paper caps and sun-bonnets. Under the efficient leadership of Toastmaster Willard, '01, the following officers were elected: President, Eugene S. Foljambe, '01; vice-president, H. LeRoy Walker, '05; secretary-treasurer, George Lees, '08; assistant secretary, C. J. Walton, '14; executive committee, above *ex-officio*, Carlton E. Davis, '93; Arthur C. Merrill, '08, Edgar P. Trask, '99, C. P. Weatherbee, '13, Everett St. John, '13.

After the dinner, Leonard C. Wason, '91, brought us the latest news of alumni doings from the front, and D. Robert Yarnall, chairman of the executive committee of the Engineers Club, outlined

"Benedicts'" Ball Team

"Bachelors'" Ball Team

OUTING OF PHILADELPHIA CLUB AT WOODBURY COUNTRY CLUB

Trask, '99, of the "Bachelors," Presenting the Tug-of-War Rope to Willard, '01, of the "Benedicts"

Last Leg of Novelty Relay Race

OUTING OF PHILADELPHIA CLUB AT WOODBURY COUNTRY CLUB

the plan of affiliation with that society. This opportunity met with the hearty approval of all present and it was unanimously decided to apply for affiliated membership in the Engineers Club.

A very successful Field Day was again run and was voted the best ever. About seventy Techmen, Techmaids and Techlets turned out for the affair on June 5, which was very elaborate.

Willard, '01, in his uniform, assisted by ten Greasy Grinds suitably attired in overalls and jumpers, had charge, from directing the crowd to the Technology special on the trip to Woodbury until the last train back to the city. Opening with a grand free street parade from the station to the Country Club, followed by a wonderful exhibition of ball playing in which the Bachelors beat the Benedicts to a time of 13 to 6, or something like that. Bean, '99, was scorer and that's what he said. Special events for the ladies followed. The potato race was won by Miss Elsie Myers of Germantown, attached to Blakeman's, '05, harem.

The running broad smile was won by Miss ——— (cut out by the censors).

The Bachelors won the relay obstacle race by a hair, according to the judges.

Allen, '11, won the sack race, while Allen, '11, and Merrill, '08, won the three-legged race. Of course the married men won the tug of war. Some beef! Willard, '01, Bigelow, '92, Wentworth, '96, and Godfrey, '00, could have held all the bachelors in Woodbury but as there were nine on each side the marrieds just pulled the singles all over the lot.

The supper on the lawn was as usual a welcome event, after which we sang all the songs on the sheets provided by Litchfield, and then we danced, old dances, new dances, fancy dances, all the dances.

Scofield, '04, had the youngest Techlet. Scofield, Jr., will enter with the class of 1934.

The committee consisting of Trask, '99, Foljambe, '01, Willard, '01, Blakeman, '05, Walker, '05, Terrell, '06, White, '06, Merrill, '08, Weatherbee, '13, Walton, '14, did excellent work and everybody went home tired but happy.—*George C. Lees*, '08, *Secretary, 826 South Alden Street, Philadelphia, Pa.*

Technology Association of Northern California.—The third monthly meeting of the club was held Tuesday, June 8, at the University of California Club. The principal business of the

evening was the election of new officers, and a general discussion of the proposed Pacific Technology Clubs Associated banquet to entertain Tech men attending the International Engineering Congress here in September. The new officers elected were: President, John R. Brownell, '01; secretary-treasurer, George E. Atkins, '04, Hobart Building, San Francisco. The rest of the evening was pleasantly and profitably occupied in a general discussion as to what was the most interesting feature of the exposition. The date of the all-Technology dinner in September cannot be determined until the program of the International Engineering Congress has been definitely settled. It will, however, be held during the week of September 20–25.

Up to date we have not had the opportunity to entertain any Tech visitors at dinner. The register at the Palace of Education, Massachusetts booth, contains a few names but we feel that a great many of the men visiting the exposition are not aware of our desire to have them register and to entertain them. We look forward to Professor Tyler's visit in July and shall be glad to welcome Professor Locke in August.—*George E. Atkins, '04, Secretary, Hobart Building, San Francisco, Cal.*

Technology Club of New Hampshire.—The Tech Club of New Hampshire held its annual meeting and dinner March 19, at the Maennerchor Gesang Verein.

This dinner was a departure from our regular affair and proved a remarkable success; a good old-fashioned German dinner was served, after which we were addressed on the subject of "The European War," by two men who had been in the war zone after the actual commencement of hostility.

Mr. Elliott Avery Carter, Harvard '09, spoke to us on the subject: "Battle of the Marne." Mr. Bailey V. Emery, Dartmouth '16, spoke on the subject of "Breaking in and out of the European War Zone."

As guest of honor we had with us Mr. I. W. Litchfield, '85, who spoke to us on the subject of "Technology," telling of the wonderful strides which had been made in the building of the new Tech and the enthusiasm and interest which has been displayed in our new home.

At the annual meeting, the officers of the past year were unanimously reëlected and were as follows: President, Edward W. Rollins, '71; vice-president, Norwin S. Bean, '94; secretary-

treasurer, Walter D. Davol, '06; Alumni Council representative, Andrew Fisher, Jr., '05.

Those attending the meeting were as follows: J. L. Arnott, '74; N. S. Bean, '94; G. N. Belcher, '08; G. A. Brown, '11; P. K. Brown, '11; E. H. Brown, '81; M. L. Bullard, '08; P. L. Caldwell, '11; H. L. Clough, '10; A. L. Clough, '91; A. J. Connor, '88; W. D. Davol, '06; S. L. Flanders, '74; C. A. Hall, '08; L. S. Hall, '14; A. P. Gerry, '05; S. P. Hunt, '95; H. R. Perry, '10; S. R. Ramsdell, '13; R. O. Reed, '06; A. O. Roberts, '04; M. Sampson, '08; N. E. Seavey, '99; H. A. Smith '11; A. H. Thompson, '08; H. E. Thompson, '04; L. A. Thompson '05.—*W. D. Davol*, '06, *Secretary-Treasurer, Amoskeag Bank Bldg., Manchester, N. H.*

Technology Association of Montana.—Nine Tech men met for a luncheon and general good time, at the Thornton Hotel, in Butte, June 18. Charles T. Main, '76, was our guest, and we very much enjoyed reminiscences of our student days and the news that Mr. Main brought us of the present progress in Cambridge, which was made more vivid by a number of excellent photographs.

Mr. Main also spoke of the encouragement of the several very recent large gifts and the activities of the Alumni Council.

The men present were as follows: W. C. Capron, '92, Anaconda; Charles D. Demond, '93, Anaconda; Prof. Geo. W. Craven, '98, Butte; Wm. A. Kemper, '04, Butte; Ralph Hayden, '06, Anaconda; Albert E. Wiggin, '07, Anaconda; Nelson S. Hammond, '08, Butte; Charles R. Main, '09, Great Falls; W. J. Winninghoff, '14, Anaconda.—*C. D. Demond*, '93, *Secretary-Treasurer, 704 Main Street, Anaconda, Mont.*

Technology Club of the Connecticut Valley.—For a number of years, it has been the custom of the Technology men in the Connecticut Valley to meet together the last of July at the Hartford Yacht Club, Saybrook, Conn., for a sociable get-together. This event has been an institution which is looked forward to by the men in the valley.

The last meeting, which occurred June 25–26, drew a representative crowd from all over the state and western part of Massachusetts. The delegation from the regions of Hartford and Springfield took the five o'clock boat from Hartford, June 25, a beautiful Friday afternoon. After the regular dinner had been served to the passengers, a special table was set for the Tech men, presided over

by Ernest W. Pelton, '03, secretary of the club, and, after dinner the meeting was addressed by Dr. John Rockwell, '96, of classic Cambridge, and others from less erudite locations. The trip down the river is a very beautiful one, especially on a moonlight night.

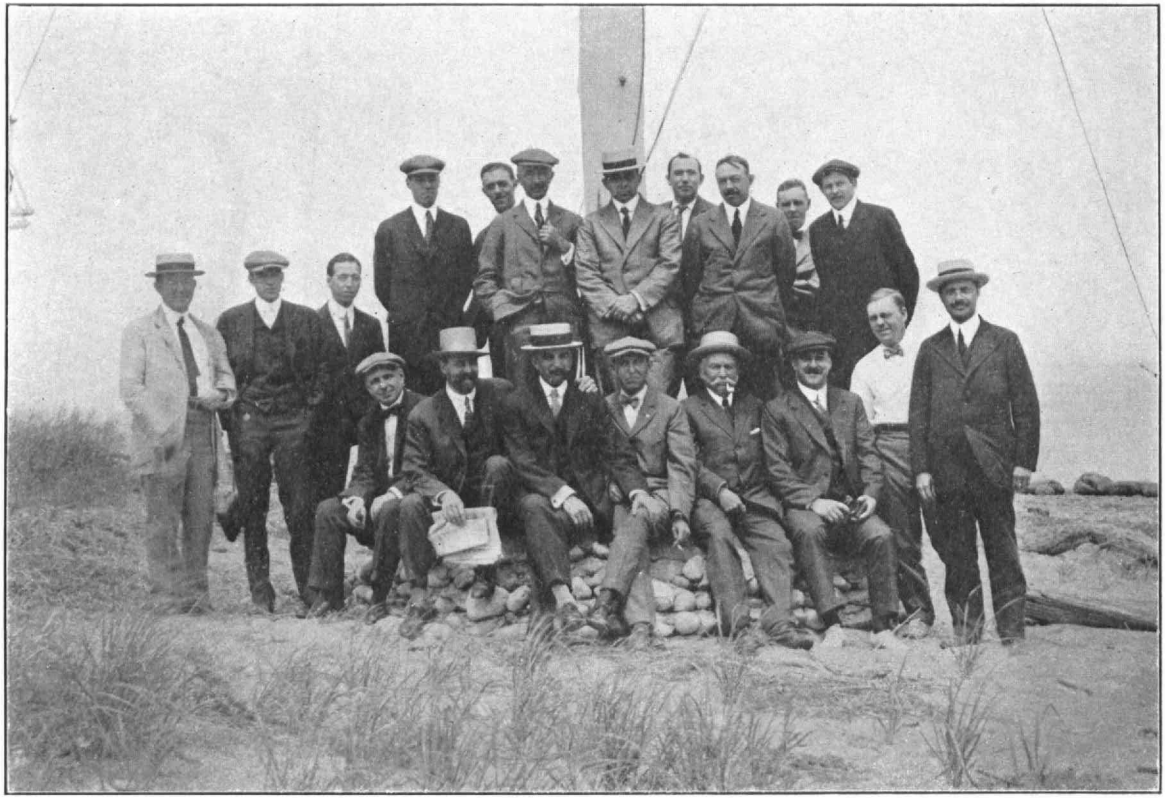
On arriving at Saybrook, the club launch met the delegation and took them to the Hartford Yacht Club just across the bay at Fenwick Point. It was here that the class of '93 celebrated its twentieth anniversary and last year the class of '89 made merry on the occasion of its twenty-fifth.

In the morning, there was a spectacular game of golf and later on everybody went in swimming. The annual dinner took place at noon. It was a shore dinner with an abundance of delicious Fenwick Point clams and lobsters.

President E. P. Marsh, '89, of Springfield, was not able to be present and in his absence Mr. Pelton presided. The meeting was addressed by Eben Stevens, '68, a former president of the club, Dr. John A. Rockwell, '96, of the Advisory Athletic Council, and I. W. Litchfield, '85, alumni field manager.

The new officers elected were: President, E. P. Marsh, '89, of Springfield; vice-president, Clarence E. Whitney, '91, of Hartford; secretary and treasurer, E. W. Pelton, '03, New Britain.

Those present at the meeting were: Eben S. Stevens, '68; Clarence E. Whitney, '91; Edward J. Stone, '03; R. E. Belden, '93; Rudolph H. Fox, '12; Darragh de Lancey, '90; C. L. Holmes, '88; Fred'k. C. Moore, '92; J. A. Rockwell, '96; Ed. E. Higgins, '86; Geo. W. Baker, '92; Herbert C. Elton, '09; Philip J. Kearney, '03; E. S. Sanderson, '90; L. P. Sperry, '01; Irving M. Guilford, '08; Wm. H. Bassett, '91; G. H. Gleason, '03; I. W. Litchfield, '85; H. H. Marshall, '09; Geo. L. Mylchreest, '10; Atwood C. Page, '10; R. J. Ross, '06; Chas. P. Waterman, '03; J. L. Barry, '12; S. Elsworth Horton, '00; E. H. Hammond, '99; E. W. Pelton, '03.—*E. W. Pelton, '03, Secretary, 77 Forest Street, New Britain, Conn.*



Meeting of Connecticut Valley Association at Hartford Yacht Club, Saybrook, Conn., June 25–26

San Francisco Dinners Changed

On account of the closing of the kitchen of the University of California Club, the regular dinners of the Technology Association of Northern California will be held hereafter at the Engineers Club, 61 Post street, San Francisco. The date is the second Tuesday of each month, July 13, and August 10. The September dinner, which is to be the dinner of the Pacific-Technology Clubs Associated will be held sometime during the week of the 20th to the 25th, announcement to be made by the officers of the club. George E. Atkins, '04, is secretary of the club, and his address is Hobart Building, San Francisco.

The dinner, July 13, will be addressed by Prof. Harry W. Tyler, '84, of the Institute, and the dinner of August 10, by Prof. Charles E. Locke, '96, of the mining department of the Institute.

The Senior Picnic at Riverside

The custom, recently introduced, of having a senior picnic on the Friday before Commencement has apparently come to stay. The picnic of the class of 1915 was an extremely happy time for the seniors who met at the Riverside Recreation Grounds about two hundred strong. The afternoon events included athletic competition of various kinds, tennis, bowling, pool, etc. After dinner the mechanical and civil engineers had a baseball game, which was won by the mechanicals, and at the conclusion of this contest the chemical engineers and the architects locked bats, the former winning by a narrow margin.

Bequest from E. K. Turner

The will of Edmund K. Turner, '70, which was recently filed for probate in Salem, provides for a number of legacies, principally of small parcels of real estate, and provides that the balance of the estate be given to the Institute of Technology in trust, the trustees to pay $2,000 a year to Sarah C. Turner, a sister of Mr. Turner, during her life; three-quarters of the remaining income, and after the sister's death, three-quarters of the entire income, are to be used for the Department of Civil Engineering at the Institute, and the remaining one-quarter of the income shall be added to the principal of the trust fund.

TECH MEN IN THE PUBLIC EYE

FRED H. NEWELL, '85, formerly director of the Reclamation Service, has accepted the position of professor of civil engineering of the University of Illinois at Urbana, and expects to make this his residence for an indefinite length of time. He will retain his official connection as consulting engineer for the United States Reclamation Service for a time at least, and give attention to some of the greater problems with which he has been personally identified.

LAWRENCE ADDICKS, '99, has been made president of the American Electro-Chemical Society. After leaving the Institute Mr. Addicks went to Mexico to work in a copper mine. From 1900 to 1905 he was assistant to the superintendent of the Raritan Copper Works, Raritan, N. J., and for the next nine years he was chief engineer and later superintendent of the United States Metals Refining Company at Chrome, N. J. At the present he is with the Phelps-Dodge Company conducting large scale leaching experiments on low grade copper ore at Douglas, Ariz.

SELSKAR M. GUNN, '05, has been made chief of the Division of Hygiene, Department of Health of the State of Massachusetts. This is a new department created by Allen J. McLaughlin, commissioner of the State Department of Health. The aim of this department will be to educate the citizen on the diseases which depend on individual hygiene, one of the objects being to conserve the health and usefulness of the more mature. The work, as planned, will also include general welfare, public health nursing, travel exhibits, health bulletins, public lectures and other means of reaching the individual. Indirectly this campaign will help to stamp out communicable diseases, but its chief aim will be to diminish the number of ailments which result from over-exertion and claim more victims than the infectious diseases.

EDWARD M. HAGAR, '93, has resigned the presidency of the Universal Portland Cement Company of Chicago to become president of a new company formed to acquire a chain of Portland cement plants covering a large part of the United States. His new

headquarters will be in Chicago. Mr. Hagar is probably the most important figure in cement circles in the country. Fifteen years ago he marketed the first barrel of Universal cement, and the business of that company under his management has increased its output from 32,000 barrels in 1900 to 12,000,000 barrels last year. The company has been for several years the largest shipper of Portland cement in the world. Mr. Hagar has been president of the Association of American Portland Cement Manufacturers and was the founder of the Cement Products Exhibition Company which has done so much to further the advancement of cement interests in the country.

CHESTER ALLEN, '05, formerly assistant professor of civil engineering at Pennsylvania State College, has been appointed professor in charge of the civil and municipal engineering courses at Pennsylvania College, Gettysburg. Prof. Allen was graduated from the Massachusetts Institute of Technology in 1905 and engaged in active practice in the Middle West until 1911, when he took up teaching.

Technology Club of China

The REVIEW has received word that a Technology club has been formed in Shanghai, China, and that monthly luncheons are held on the first Saturday of each month at Carlton Café, Kiangse road, Shanghai. Any Tech men visiting Shanghai will be welcomed with open arms by the members of the club.

The officers are: W. W. Stevens, '98, representing the Standard Oil Company of New York, Shanghai, president; and W. A. Adams, '08, China Realty Company, Ltd., 39 Nanking road, Shanghai, secretary.

From eight to twelve enthusiastic Tech men are present at the monthly luncheons and news from the Institute is received with greatest interest.

ATHLETIC FACILITIES AT TECHNOLOGY

To the Editor of the Review:

Every one of us must take a certain measure of physical exercise to keep his human machine in working order and available for such task as need or inclination may put upon it. The amount of necessary exercise varies with age and recuperative power. A Marathon racer or an oar in a four mile race will lose several pounds in weight and several degrees in temperature in a short time and recover in a few hours to normal condition of health. During the development period of youth up to the age of twenty-six a great deal more physical exercise is necessary than afterwards. And, moreover, the youth who is bending his activities to mental matters as at school or college must have relatively more than one whose ordinary vocation requires of him more physical and less mental exertion. And while the foregoing presents the case, it really is not necessary to argue it, for it is tacitly admitted that physical development is a necessary accompaniment to education.

With the construction of the new Technology plant on the Charles, it is becoming that we should well consider the aspects of health, hygiene, and exercise to obtain the best efficiency and opportunity for development even as is done in other respects, especially the educational.

That form of exercise is desirable which will naturally attract the individual student to its use, to the end that he does take sufficient and correct exercise necessary to his condition. A forced compliance to a requirement constrained as to form and time loses greatly in efficiency through lack of enjoyment, possible tired condition, and loss of time for other duties or studies. The approved form of exercise is one that brings all of the muscles of the body into constant play but not calling any one group to extreme or over exertion. A collateral desirability is good hygiene and cleanliness.

Two forms of exercise which conform in large measure to the above are swimming and running. It is proposed to arrange that these two simple yet natural forms of exercise may be attractively taken with best efficiency, with keen enjoyment, and without encroaching on time that might be used for other things.

In the proposed plat for the dormitory system multiple quadrangles are used with the Walker Memorial in the center of the Charles River frontage and the gymnasium located in a corresponding position on the side fronting on the athletic field. It is proposed that a large feature of the gymnasium, if not the paramount feature, be a large swimming pool. As another athletic feature, making participation in the activities of the gymnasium far more facile, as well as providing for the athletic exercise of

running itself, it is proposed to connect the corridors in the basements of the various dormitories, on the sides towards the periphery of the plat, so that a continuous passage may be possible. These connected corridors would become an indoor half-mile running track with four corners and four stretches of one-eighth mile straightaway. At the nearest point this track would connect with the gymnasium on the swimming tank level.

Think of the simplicity of it! And is there a man who does not boil with envy at the thought of the pleasure, say nothing of health, of jumping out of bed, bounding down stairs, a half mile run or more, a plunge in the pool and back to his own room for a rub down before dressing? And all in very little time and time hardly possible for other uses. Again, the exercise above mentioned, short in time as it would be, would be enough to keep a man in condition without other planned exercise at all.

And just the above would conform to every requirement as to proper exercise, cleanly, all muscles and easy, enjoyable, time saving and efficient. And who will doubt of the greater use than the minimum above outlined?

This suggestion instead of being an additional expense in the building plan would in all probability show a saving over other plans. The running track would be largely basement space already existing in plan, and available for no other use. The great bathing facilities concentrated at the pool in the gymnasium would make bath rooms in the dormitories unnecessary, saving in cost of plumbing and space. Each student suite would have toilet and wash basin but no tub. Again a saving in locker room in the gymnasium would result, for all dormitory dwellers would need no gymnasium locker or space to dress in. The gymnasium would also be relieved of providing a running track, as with this half-mile indoor track available no one would run on a ten-lap or twenty-lap track. One might well present figures to show actual saving in original outlay with the dormitory group built on these plans.

Now, as to the pool, it is most strongly recommended that the largest pool possible be provided. Make it a wonderful, a remarkable place for possible water athletics such as is not approached anywhere. Clean healthful water is the limiting expense for this and the "know how" of Technology should be able to provide that. We have abundant fresh water of the Charles River at hand. It is proposed to take water from the Charles River, filter it and give a supply of clear clean water to the pool. Then that all this expense be not borne by the pool it is proposed to use the effluent water from the pool for all purposes possible in the Technology buildings, flushing closets, cooling water for condensing, hydraulic experimenting and possibly for steaming purposes. Possibly by refiltering, uses could be extended. At all events the plan proposed is to take the maximum possible consumption of what might be called "second grade"

water and make the largest pool that will keep clear and clean with such effluent rate and the estimated use the pool will receive.

The gymnasium building would consist, outside of the pool, principally of a large hall with as large floor space as possible. It could be treated architecturally in a more pleasing way than if it were cut up with stairs, galleries, running tracks, and so forth. It could be available for other activities in this form and be a great addition at times of Commencement, celebration and fêtes.

And if we have a Technology ocean of our own we will not need to go to Nantasket to sport on the beach for a reunion; but let the whole reunion run on the Technology beach and jump into the Technology waves.

JOHN BALCH BLOOD, '90.

MISCELLANEOUS CLIPPINGS

Second-Rate College Wanted?

Minor considerations aside, the whole case for a State university in Massachusetts rests on the ability of its advocates to prove that our present colleges are failing, and must continue failing, to serve the public of this Commonwealth in the measure which the public has a right to expect of them. So each college president—Lowell of Harvard, Meiklejohn of Amherst, and today Maclaurin of Technology—who has written his opinion of a state university for the *Transcript*, has frankly stated the fundamental issue at stake. In the clearness of these men's vision is sufficient answer to the charge that our privately managed institutions of higher learning in Massachusetts are unworthy the trust which the public of this state has long reposed in them. We see the colleges still mindful of the support which they had from the state through all the early years of their history, successfully repaying the citizens of this Commonwealth in numerous ways for the debt which is due them, and anxious further to enlarge their fields of usefulness to the youth, the adults and the government of Massachusetts. The very tone which the presidents take, disarms their enemies' criticism.

Were there a trace of smugness, of calm defiance of the public's interests, in the institutions which hold positions strongly entrenched by private endowments, the whole situation might quickly be changed. Against the danger that higher education in Massachusetts should become the exclusive property of headstrong groups of individuals, none of the practical objections which may now be legitimately raised against a state university could long stem the force of public opinion clamoring for recognition of its authority. Under such circumstances even the fact that no college which the state might establish at this period of our educational development could possibly be better than a second-rate institution by contrast to our existing colleges, should deter the Commonwealth from founding a university of its own. But one need only inspect the records which our colleges have long maintained in public service, observe the willingness of their presidents to meet in every possible way the needs of the public, to appreciate at once that no such danger exists. All men may be glad that this state is not now under the necessity of founding at great expense to the taxpayers a collegiate institution which would work in wasteful duplication of the services that our existing colleges are entirely adequate to perform, and which must remain through all of its history a second-rate college at best. President Meiklejohn is right when he says that coöperation of the state, not competition from it, will give the

public the largest return from Massachusetts colleges, so long as the institutions remain mindful of their proper duties and obligations.—*Boston Transcript.*

New Tech Laboratories

That the Massachusetts Institute of Technology will have in its new plant a group of laboratories as nearly perfect as modern equipment can make them was indicated by Harry Gay, equipment engineer for the Stone & Webster engineering corporation in an address April 1 before the Boston branch, American Society of Civil Engineers at the Engineers Club. G. E. Libby, Hollis French and Allan Hubbard spoke on the ventilation and heating of the New Technology. A. L. Williston, a director of the Wentworth Institute described that plant.

Much interest centered in the paper of Mr. Gay concerning the laboratories of the New Technology. Technology was the first institution in the country to introduce laboratory methods in mechanical pursuits, and here as well as in physics and chemistry it has kept constantly to the fore, but in rooms and buildings not primarily suited to the most modern uses.

The laboratory of applied mechanics, on Trinity place, has powerful testing machines of the best patterns. An important addition to the equipment in the new quarters will be a 300,000-pound vertical universal testing machine. This will supplement the Emory machine, which works in the horizontal. There will be some lighter apparatus new to the establishment, including three 60,000-pound vertical Olsen testing machines. A heat treatment laboratory will be a new feature among these mechanical engineering laboratory specialties.

Striking among the novelties will be the new hydraulic laboratory. This is to be located in the building paralleling Massachusetts avenue. The canals, which have been facetiously termed "a little Venice," will naturally be in the basement, while reservoirs on the upper floors and pipes leading down from them will afford an opportunity to study heads of water under various conditions.

Provision is made for the development of the power in 22,000 gallons of water per minute, operating at a natural head of 25 feet or if desired by means of air pressures an artificial head of 575 feet may be attained. The proximity of the Charles River basin will make the filling of the circulating canals in the basement very easy. Water from these may be pumped in the desired quantity to the second floor, from which it drops through a steel penstock provided with openings for water wheels, reaching finally a discharge back again into the canals.

The steam engine laboratory will have two distinct advantages over that which has grown up by degrees in Boston: it will have the room for commercial-sized work and will be fitted with crane facilities. The lab-

oratory will be a practical institution capable of taking up investigations on factory lines.

The new electrical laboratory will base its usefulness largely on the abundant space in which to set up anything. The laboratory will be independent of the generating plant of the Institute, and will have improved facilities for departmental control of current for educational purposes. There will be current facility up to 6,000 amperes and 100,000 volts, although these two extremes will not be touched at the same time. The installation will consist of three motor-generators aggregating 500-kilowatts capacity and a storage battery of 800 amperes normal capacity for eight hours.

The chemical laboratories will be the latest word in equipment. There will be three systems of ventilation, the general room exhaust and the special exhausts of the various hoods against the wall. Besides there will be on the tables umbrella-shaped stands from which the down-draft will care for local fumes or odors. These will be taken by separate exhaust fans. The electrical installation of the chemical laboratories will be of interest. They receive their electrical current from a source independent of the lighting circuit, with special outlets.

One of the features of the laboratory will be the methods of maintaining steady temperatures in experiments by electrical means. The air is to be washed. The chemicals are to be kept in storerooms in communication with a private elevator. The commoner chemicals will be found in all the rooms, but of the rarer ones there will be the single stock in the largest supply room. This will afford much economy in that these will be in a single quantity in one place. The laboratories of industrial and applied chemistry are to be fitted to work on a commercial scale, with abundant space for the setting up of bulky apparatus, and are provided with vacuum, draft for furnaces, transformers and steam and mechanical power.

Altogether Mr. Gay showed to his company the collective plans of 600 rooms.—*Christian Science Monitor.*

Electricity in Building Construction

Central-station energy is playing an important part in the construction of the great educational "plant" of the Massachusetts Institute of Technology at Cambridge, Mass., which is being built by the Stone & Webster Engineering Corporation of Boston. Thirteen buildings are now being erected, and later the total will be increased to seventeen, all fronting on the Charles River basin and occupying an incomparably fine location from the civic standpoint. The buildings extend 800 feet along the basin and run back about 1,200 feet from the parkway bordering the water. In general, reinforced-concrete construction is employed, with limestone and brick facings. The total floor area is 730,000 square feet.

On the construction job, which is as carefully organized as would be an undertaking a thousand miles from the headquarters office, a 35-horse-power motor drives wood-working machinery in a temporary sawmill structure, including a buzz planer, four saw tables, two swing-saws, a band-saw, an emery stone and a boring machine. A local machine shop, containing two drill presses, a 16-inch lathe, a double emery wheel, two hack saws, a 1 1/2-inch "Little Giant" bolt machine and a 2½-inch to 8-inch Curtis & Curtis pipe cutter, is equipped with a 15-horse-power motor. By feeding the pipe cutter with an overhead traveler consisting of block and falls running on a 4-inch by ½-inch wrought-iron rail, three men's services are saved in operating the machine.

A large amount of steel rod bending is necessary in the reinforcement work. Fig. 1 shows a "Star" bending machine belt-driven by a 10-horse-power motor, the machine being capable of bending seven small rods at once with close accuracy. Five 5-horse-power and two 10-horse-power motors are also in service driving pumps at various points on the property. Fig. 2 illustrates a portable hack-saw of home-made construction. It is belt-driven by a ½-horse-power, 110-volt motor and is provided with wheels 8 inches in diameter and with a face of 4 inches, the wheels consisting of wooden blocks banded by strap iron. Stock 24 inches wide can be sawed in the machine, of which the portability and adaptability to service at any lamp socket have proved of great labor-saving value. The main frame is built of 3-inch by 3-inch by 5/16-inch angle irons, and the saw can be hauled about by one or two men with little difficulty.

In the forge shop on the field are two forges, each of which is equipped with a 12-inch Buffalo blower, directly driven by a ½-horse-power motor. A 3-inch air pipe cares for the delivery in each case, and a slide valve placed below the forge bed affords close control of the draft at a level which does not interfere with the handling of stock between the forge and the anvil. About fifty miles of conduit are being installed in connection with the wiring for lighting, power, telephone, watchman's clock and synchronized time systems to be used at the Institute. A home-made conduit bender (Fig. 3) is effectively used. It consists in brief of two sheaves of different size between which the conduit is placed, the bending being effected by rotating a sliding dog about the center of the larger sheave and along the outer portion of the pipe as shown. The dog is mounted on a lever 5 feet 6 inches long, the lever being 3 inches by 3/4 inch in section. The larger sheave is 16 inches in diameter, and the smaller one 9 inches. Both are mounted on a plate attached to the working table shown in the half-tone, and the larger sheave is equipped with a groove of varying diameter to fit 1½-inch, 1 1/4-inch and 1-inch conduit. The speed of bending is a notable feature of the equipment.

Electrical service during construction is supplied by the Cambridge

Electric Light Company, the motors being of the 220-volt induction type and of General Electric and Western Electric manufacture. A transformer station is situated on the side of the grounds for local service. When the buildings are completed energy will be supplied from a plant to be erected by the Institute and forming a part of its instruction equipment. The initial boiler installation will total 1,800 horse-power. The estimated maximum load is 1,000 kilowatts, distributed mainly in alternating-current lighting and power circuits, with a small amount of direct current for laboratory service. In addition to utilizing existing generating apparatus, a new 750-kilowatt turbo-generator set will be installed. Gas-filled incandescent lamps will be extensively employed, and in classrooms, study rooms and laboratories semi-indirect illumination will be widely applied.

About five hundred distribution panels will be required in the electrical circuits.—*Electrical World.*

Serving The State

More than one hundred and twenty-five of the professors of Massachusetts colleges served this state in various public and semi-public positions last year, according to the report of a committee which made an investigation in behalf of the University Council of Massachusetts.

The committee was composed of President Richard Cockburn Maclaurin of the Massachusetts Institute of Technology, chairman; President Harry A. Garfield of Williams College and President Ira N. Hollis of Worcester Polytechnic Institute.

The report recommends that the University Council encourage this help to the state by urging its constituents to give such special facilities to professors engaged in such work by affording a measure of relief from academic duties.

Twenty members of the faculties of Massachusetts colleges served last year on state commissions or boards. Thirteen served without compensation and three, members of the Health Council, at a nominal salary. Four salaried positions were those on the Transit Commission, Civil Service Commission, the Commission on Labor and Industry and that of the Minimum Wage.—*Boston Journal.*

New Scientific Journal

It is a well-recognized fact that the progress of science is seriously impeded by an overabundance of scientific journals. Almost every scientific man finds that a deplorable amount of his time is given to the task of gathering together from scorces of periodicals the *disjecta membra* of the literature in which he is especially interested, and, to make matters worse, there is always a certain residuum of such literature that escapes his vigilance on account of its out-of-the-way place of publication.

Hence, the advent of a new scientific periodical is not hailed with general satisfaction unless there are very special reasons to justify its existence. Such reasons, undoubtedly, authorize the appearance of the monthly *Proceedings of the National Academy of Sciences*, which began publication last January. In fact, the *Proceedings* at once takes rank among the few journals that are indispensable.

Not long ago we greeted the new *Journal of the Washington Academy of Sciences*, which so admirably epitomizes the progress of science at the capital, as the nearest approach yet realized in America to an analogue of the Paris *Comptes rendus*. This characterization may be even more aptly applied to the new organ of the National Academy. Its aim, as announced, "will be to furnish a comprehensive survey of the more important results of the scientific research of this country." It is not designed to replace or displace any previously existing journal, since its contents will be limited to brief advance notices of important scientific achievements, the more detailed reports of which will appear elsewhere. The maximum length of contributions is fixed at 2,500 words. Authors are, however, cautioned to be precise in making clear the new results and to give some record of the methods and data on which they are based, as well as of the relation which the paper bears to previous publications on the same subject.

The managing editor is Prof. E. B. Wilson of the Massachusetts Institute of Technology.—*Scientific American.*

A Complete Students' Club

At the last meeting of the Alumni Council of the Massachusetts Institute of Technology the architect, William Welles Bosworth, '89, presented plans for the proposed Walker Memorial. Other consideration has followed this and, although the final authoritative action is as yet lacking, the approval has been so general that it seems more than probable that the final structure will agree very closely with the plans as now prepared. Attention to the Walker Memorial has followed, as was anticipated, the completion of the main structural features of the educational group, the success of whose plannings is evident to every one who passes along Massachusetts avenue or the Esplanade.

The memorial, which is to be the club house of the students, is strikingly beautiful, carrying out as it does the architectural ideas of the buildings already in place along the Charles River front. The location of the memorial is to be to the east of the educational group, sharing with it the shore of the basin, and surrounding it will be the dormitories with the gymnasium near at hand and the athletic field to the rear of the latter. This disposition will bring the student housing, the student activities and their social center, the Walker Memorial, into compact form and convenient to, yet aside from, the lecture halls and laboratories devoted to studies. For

the students and their activities land has been reserved to the extent of about fifteen acres.

The memorial building itself, classic in style, in harmony with the great halls already erected and of the same warm tinted limestone, will be restful to the eye, commodious and convenient for its special uses, and a dignified and worthy memorial to the soldier-statistician who for fifteen years directed the energies of Technology, Gen. Francis Amasa Walker. The principles and motifs of the educational structures reproduce themselves in its easy lines and simple decorations; a pillared portico recalls the striking entrance to the central library, while the pavilions with their engaged columns are reflections of the facades of the Great Court, similar in idea but modified gracefully in treatment.

The Walker Memorial was suggested shortly after the death of President Walker and a fund was subscribed of about $100,000. It was to be a memorial that was peculiarly appropriate since, in his life and while he was President, he realized the fundamental need of the Institute for what may be termed a social side.—*School Society*, Lancaster, Pa.

Mutualizing the Equitable

The underlying purpose of Gen. T. Coleman du Pont in purchasing the control of the Equitable Life Assurance Company, and subsequently offering the policyholders an option on his holding, is stated to be the ultimate mutualization of the company. The consummation of this plan is much to be desired and cannot fail to be welcomed in life insurance circles. It is quite in line with the policy of practically all the larger American life insurance concerns which in recent years have been converted from stock companies, paying dividends to a select coterie of shareholders, into mutual concerns writing insurance at a much lower cost and distributing dividends to the policyholders. The significance of this proposed change is that it emphasizes the competitive pressure to which the stock companies are subjected by the mutual concerns. The latter are able to fix a lower rate for insurance and, when surplus assets accumulate, to distribute them among policyholders, thus further reducing the cost of the protection afforded. The oldest policy in effect with one of these mutual companies represents a cash value of over $2,100, obtained at a net cost of a trifle more than $170.

The Equitable, while nominally a stock company, occupies a rather unique position among insurance companies. It was organized in 1859, has a capital of $100,000, which legally can pay no more than 7 per cent. annually, and is controlled through a voting trust. The men composing this trust choose the directors, although it is stated that the policyholders elect the majority of the board. The complete mutualization of the company will put it in the same category with the Prudential and the Metropolitan companies.

General du Pont's purchase of the controlling interest recalls a similar transaction by Thomas Fortune Ryan in 1905. What General du Pont has paid is not announced; Ryan claimed to have paid $2,500,000—this much for an investment which returned him in dividends $3,514 per annum. The advantage to Mr. Ryan was that it gave him control of assets aggregating $413,953,020.74. General du Pont's purchase gives him control of assets amounting to $516,651,574, hence the cost to him unquestionably was proportionately greater.

In this case, however, the purchase appears to have been made for the purpose outlined. General du Pont's plan hinges upon an agreement as to a fair price between policyholders, directors, and himself. There is much room for difference of opinion here and the achievement of the Equitable's new purchaser will depend in no little degree upon his skill as an adjuster of these differences.

When the proposal to mutualize any of these companies is advanced the interesting question arises as to how much the shareholders are to to receive for their original investment. In 1876 a stock insurance company was organized with capital assets of $91,000; it was mutualized last year and the shareholders received $18,200,000, having for some years previous drawn 220 per cent. in dividends per annum. Needless to say, the original incorporators were not the ultimate beneficiaries. The results to be obtained by the shareholders of the Equitable Company probably are great, but the engrossing query is: What price will the original $100,000 of stock bring today and what will be the profit of the most recent purchaser?—*Boston Transcript.*

The Late Professor Ware

The news of the death of Prof. William R. Ware at his home at Milton, Mass., at the ripe age of eighty-three, will hardly be a surprise to those who have known of his increasing frailty during the past two years, but to the older members at least of the architectural profession it will come as a personal affliction. The younger men who have come into the profession since his retirement from active professorial work in 1903 will need perhaps to be reminded that in his death the profession in this country has lost one to whom it owes an incalculable debt, for it was Professor Ware who planned and organized the first school of architecture ever established in the United States—that of the Massachusetts Institute of Technology, opened in 1866. From this school he came (after one year's interval), in 1880-81, to Columbia University, where he organized the School of Architecture, which has done so much to make the name of this university noteworthy in the annals of the profession in New York and throughout the country. Not only was Professor Ware the creator of two great schools of architecture, establishing in them conceptions and models which have been very widely followed in the other architectural schools of the country, but he

was also the pioneer in the great task of lifting the management of architectural competitions out of the slough of corruption, disorder, and confusion which existed thirty years ago. His papers before the American Institute of Architects upon the subject of competitions, and his own conduct of many of the most important competitions of the period 1885–1900, laid the foundations for the system which has been so completely worked out by the Institute committees on competitions and the New York Chapter of the Institute. It is impossible in a short letter to enumerate all the services which Professor Ware rendered both to the practice of architecture and to the cause of architectural education, but even these great services will perhaps be less remembered by those who have had the privilege of studying under, or of being associated with him, than the splendid gift of personal inspiration of which he made them the beneficiaries. To hundreds of students and younger practitioners he opened new horizons of thought and intellectual appreciation, and to hundreds of others he gave personal counsel and assistance with a warmth of sympathy and a delicacy of perception such as one rarely meets in his teachers and elders. Thus every student who passed through either of the two schools of architecture founded and built up by his labors felt himself bound to Professor Ware by ties of the strongest personal affection and esteem, and the unconscious influence he exerted on the profession through these relations can never be measured. With the close of his life there passed away from its ranks the rarest spirit and the finest influence within the memory of any now living.—Professor A. D. F. Hamlin, in the *Evening Post*, New York.

BOOK REVIEWS

SMITHSONIAN PHYSICAL TABLES. Prepared by Frederick E. Fowle, '94 (Sixth Revised Edition; The Smithsonian Institution).

These tables are so well known, and are of such proved accuracy and convenience, that it is necessary only to call attention to the fact that their thorough revision, which was begun in the fifth edition, has now been completed. As a set of tables for general use, this work probably has no superior.—*The Nation.*

METHODS IN METALLURGICAL ANALYSIS. By Charles H. White. P. 356; ill., index. D. Van Nostrand Co., New York, 1915. For sale by the *Mining and Scientific Press.* Price, $2.50.

This volume adds to the already large number of books on metallurgical analysis, but the author, who is assistant professor of mining and metallurgy at Harvard and the Massachusetts Institute of Technology, states that he has brought together those methods which, owing to their fitness, seem to have been most generally adopted in American metallurgical laboratories. From several years' experience he finds that students who have had adequate preparation in qualitative anaylysis can take up metallurgical analysis at once, without having previously taken a general course in quantitative anaylsis. The first forty-five pages of the work discuss the equipment of a "lab," selection of methods, sampling methods and apparatus, and operations in analyses in a thoroughly practical manner. Then follow chapters giving simple and quick methods of analysis of ore. The estimation of sulphur, silicon, phosphorus, manganese, nickel, copper, tungsten, and other metals, and gases, in steel, covers fifty-three pages, and may be said to be an important part of the book. Determinations are given of furnace products, gold and silver, fuels, oil, and some of the minor and rarer metals. Numbers of useful tables find their place as in most works of this kind. To show that it is up to date, it is only necessary to mention that such subjects as copper in steel, cyanogen in commercial cyanide, gas analysis, testing of uranium ore, and examination of boiler water are among the many given adequate space.—*Mining Press,* San Francisco.

BIOLOGY. By Gary N. Calkins, '90, Professor of Protozoölogy in Columbia University. New York: Henry Holt & Co. 1914. Pp. i–viii+241; 101 figures.

This text-book is frankly based upon the well-known earlier work of Sedgwick and Wilson and follows it closely in subject-matter, method and illustrations. It is, however, even more strictly of the informational type and omits all reference to practical exercises or laboratory directions. The physiological side of the subject is emphasized. In the order of treatment the present work departs from the plan of its prototype and substitutes the logical course of proceeding from the simple forms to the complex, for the more practical one of introducing the student to the subject through contact with an organism of such size that it can be studied by the ordinary method of observation. For most teachers this would seem to be a change of doubtful expediency. While the fern and earthworm are still considered at some length, other types (*Ameba* and other Protozoa, *Hydra, Homarus*) receive as much attention. In each case, however, the particular form is studied in connection with some biological principle which it illustrates. The amoeba typifies the activities of one-celled

animals; hydra, the nature of animals with tissues; the earthworm, the conditions developing where organ systems are present; the lobster, a more complex condition of organ systems involving the subject of homology. More briefly the nature of one-celled plants is treated in connection with yeast and bacteria; parasitism, as exhibited by *Tœnia*, is discussed; and animal associations, adaptations against parasites, and the mechanism of immunity are appropriately presented. A series of these general subjects, including animal descent, evolution, conformity to type, somatic and germ plasm, and Mendelism, appears in the last chapter of the book, wherein the most recent work receives attention.

General biology is defined by the author as the science which deals with "the fundamental principles of living matter" and he then outlines specifically seven subdivisions which embrace practically the entire realms of morphology and physiology. That the recognition of such a subject as general biology is purely a matter of expediency is admitted when the author states that a thorough study of any one of the seven topics would compass the whole field. The purpose of general biology is, however, conceived to be that of forming a foundation upon which the other more specific subjects can be built. It is the thought of the author, and of others who write similar books, that students can be made acquainted with the main biological conceptions through a course designed for this specific purpose instead of acquiring the knowledge as a result of personal experience with many animals and plants. The large results of biological research are presented to the beginner before he is much acquainted with the varied materials manifesting the properties of living matter.

Whether this method is the best for use with an elementary class in the freshman or sophomore year of a college course is open to question. Much depends upon the circumstances in each institution. It may be said, in a general way, that the observational sciences won a place for themselves in the curriculum because they promised a training, through personal experience, that could not be obtained in subjects which are studied merely from books. Information comes thus as a result of discovery, and with knowledge comes training. Not only are facts gained but the method of their acquisition appears through repeated experience with concrete examples. The student is not told that the lobster has twenty somites in its body, but he is asked to discover for himself the number present in a certain specimen. He is not offered the generalization that all normal lobsters have the same number, but he is led to form this conclusion himself through opportunities for comparison with other representatives of the species and by means of the collective experiences of his fellow students. He is not told that there is a large group of branchiate arthropods characterized by this fundamental organization, but he is guided to the formation of such a conception by the observation that a considerable number of such animals, although differing in many other ways, presents a repetition of the same numerical condition. Experience, not authority, is the guide; the goal is a development of the power of accurate observation and the formation of judgments based upon such observations, not the acquisition of certain facts relating to a group of objects, known as plants and animals, as distinguished from other facts relating to non-living objects, or from still other facts concerning human activities in methods of expression or of living. The path of each student in his approach to this goal is his own, and it varies in infinite degrees from all others—no beaten track of conformity to text assures his arrival.

"But hold!" says the efficiency expert of the curriculum makers, "Will the student learn all about plants and animals in *the* course in biology, will he be able to identify and name those forms he comes in contact with, will he know about the nature of his own body and of his relation to other animals? We want the student thoroughly grounded in the principles of biology, so make a book and teach him these things. For this purpose you may have him for one twenty-fifth of his college course." And so there is much writing of books and the puzzled teacher tries first one and then the other. Something is the matter with each one, so finally he makes a book of his own. If he has decided that the efficiency expert of the curriculum makers *is* right and that a certain group of facts, presented to the students for their acceptance or rejection is the proper content of a course he emerges from his trials very comfortably and, educationally, lives happily ever after.

Of the numerous efforts to supply the demand for text-books which shall inform students regarding the principles of biology, that of Calkins is one of the most satisfactory. Doubtless, in his own laboratory, the book occupies a proper place in relation to the individual work of the student; but it probably would not be far from the truth to assume that, even under these favorable conditions, the element of individual effort is small. In the hands of the dependent teacher even this remnant would disappear. When a descriptive text is used it results, under the best conditions of laboratory work, in confirmation by the student of facts studied in the book; in the absence of proper laboratory opportunities the course based upon it becomes merely another informational subject and the test of its accomplishment purely one of memory. The distinction between the observational sciences and languages, history and other subjects presented on the basis of authority, largely disappears in the former alternative and entirely so in the latter. Undoubtedly the subject-matter of biology would well warrant its inclusion in a college course, but in the face of the opportunities for training students in making accurate observations, forming independent judgments and developing logical habits of thought—qualities that are always so much needed—how poor is the return! It is not to be denied that it is easier to inform students than it is to train them; it is not to be denied that there is a large popular demand that schools should instruct their students upon matters which will be of immediate "practical" use to them later. But it is the duty of schools to recognize that real education is training, and so to devise and administer their curricula as to provide this training, to the best advantage, for the various types of mind that are to be educated. In furthering this purpose the subject of biology offers unique and valuable opportunities to develop the powers of observation, comparison and judgment through personal experience with the scientific method. In view of the great significance of this method in our past achievements, and of its promise for the future betterment of society, it is incumbent upon teachers of those subjects, in which it is best emphasized, to insist that they be given time and opportunity to teach in ways calculated to render effective, to the largest degree, its operation in the activities of their students.—C. E. McClung in *Science*.

The Design of Simple Structures. Vol. II of a Work on Structural Design. By H. R. Thayer, M. I. T. '98, M. Am. Soc. C. E., Asst. Prof. Structural Design at the Carnegie Institute of Technology. 8 vo.; 503 pp. Illustrated. Price, $4.00, net.

This book forms a continuation of Professor Thayer's treatise on Structural Design, Vol. I, and chapters and articles are numbered consecutively with that volume.

This book discusses the simpler structures, and is a very plain and practical statement of structural principles and designs. Intended primarily for students, it contains very many things worthy of attention by more experienced engineers and architects, and therefore is most worthy of commendation.

Its definitions are clear and compact. Its analysis of conditions which underlie structural design is accurate and full, and discusses in most instances the entire range of possibilities. The advantages and disadvantages of alternate methods of design are carefully stated and the necessary instructions given to direct intelligent choice.

The details correspond to well recognized standards and are worked out with the same fullness, the illustrations showing both the good and the bad, and are evidently intended to be as complete as the author's wide experience would enable him to make them.

Criticism may perhaps be directed towards the fullness with which the principles of designing and detailing are stated, illustrated and emphasized both by words, pictures and figures, which may even smack of repetition. In the judgment of the writer, this is an advantage rather than a defect and he bases his conclusion on his own experience, which would have been very much simplified and facilitated had there been available in his early days a work of this same fulness of statement.

In addition to this positive statement of principles and methods, this book gives the student also the reasons and the considerations which underlie intelligent choice, a matter in which other books are somewhat deficient. To know how is good; to know why and wherefore is much better.

Attention is also given to the economic aspects which underlie not only methods of designing but also more particularly methods of detailing. Incorrect detailing is more often responsible for failures than incorrect designing and poor details lead to increased shop expense. The author has emphasized this economic phase of structural design rightly by calling attention to the principles of least weight, by giving cost data for preliminary estimates, by discussion of the relative shop cost of alternate details and by pointing out clearly the necessity of making details in a way to facilitate erection. The writer does not recall another work in which economical designing and detailing is so rigidly insisted upon.

The selected references to current and easily accessible literature is a distinct aid to further and intelligent study. It is praiseworthy that these references come down very close to the date of publication, and are therefore most recent. The structures illustrated are all modern.

The book as a whole, therefore, represents the most recent and best practice in structural design and will well repay study and use.—R. B. Woodworth, Engineer with Carnegie Steel Company.

Structural Design of Warships. By William Hovgaard, Professor of Naval Design and Construction, Massachusetts Institute of Technology, etc. London: E. and F. N. Spon, Limited. Price 21s. net.

To those engaged on the design and construction of warships, the present naval operations are of supreme importance and interest, for upon experience gained in this, the first great test of the modern battle fleets, will be based the alterations and modifications of the present theories of design and construction. What may be the type of fighting unit evolved as a result of this experience it is as yet impossible to say, but all indications up to the present point to developments in the direc-

tion of increased speed and gun-power. These will almost certainly involve an increase in dimensions, and the problem before the designer—the provision of the necessary strength with the minimum of weight—must become of increasing importance. Scientific investigation of the various and varying stresses, both structural and local, to which war vessels may be subjected, together with possible improvements in the quality and disposition of armour, must be looked to in order to provide the utmost possible reduction in weight, while retaining the necessary strength.

For this reason, the publication at the present time of Professor Hovgaard's "Structural Design of Warships" is most appropriate, for, while the general design may be altered as a result of experience gained, the scientific principles upon which good structural design is based are not affected, and are indeed likely to come into more general use. Although primarily intended as a record of lectures for the instruction of officer candidates for assistant constructorships in the United States Navy, the volume is of great value to all students, and to all who are responsible for the design of warships, for in no previous text-book have we seen such comprehensive and detailed application of scientific principles to the design of the component parts of the ship girder.

One of the most difficult problems which the ship-designer has to face is the determination of the scantlings required in girders, frames, etc., to meet local and structural requirements—the difficulty arising from the fact that each item must be considered not only by itself in its purely local function, but also as a part of a much more complex structure, in which the stress in any one part is communicated to all the adjacent parts. The correct determination of the allowance to be made for this distribution of stress is of the utmost importance, and we have not seen this point better dealt with than in the volume now under review. This is well brought out in the chapters dealing with strength of closed frame-rings, strength of continuous and intercostal girders, plating under tension and compression, and transverse and longitudinal strength. These chapters contain much that is novel and interesting, and it seems a pity that the author did not complete the chapter on longitudinal strength by the inclusion of diagrams showing the graphic calculation of the bending moment in the hogging and sagging conditions for, say, a torpedo-boat destroyer.

Strength calculations lead naturally to a consideration of the means employed in joining together the various parts of the structure. The efficiency of riveted joints and connections is of such fundamental importance that too much stress can hardly be laid upon corrrect design and sound workmanship, and it is therefore appropriate that special consideration should be given to rivets and riveted work in a volume dealing with structural design. Professor Hovgaard examines most thoroughly all the considerations which govern the theory and practice of riveting and the design of riveted joints, and investigates in detail all the possible modes of fracture for the joints usually met with in ship-work.

The design and riveting of compensation liners in way of bulkheads is investigated, and some interesting details of special shell-butt connections used in French and other destroyers are given. These chapters, together with the accompanying sketches, form the most complete investigation of the subject we have found in any ext-book on naval architecture.

The chapter dealing with shell-plating is worthy the careful attention of designers responsible for the arrangement of shell-landings, as it contains several sugges-

tions which could with advantage be more extensively given effect to. One such suggestion refers to the desirability of so arranging the landings that the furnacing of shell-plates is reduced to a minimum. This point is too often lost sight of, with the result that the number of furnaced plates is increased, thus adding considerably to the time and cost of the work. Interesting curves showing the thickness of outer bottom plating for ordinary double-bottomed ships and for submarines are given.

The chapter on sheathing and composite ships is of interest merely as a record, as with the increased radius of action of modern battleships and cruisers, and the increase in docking facilities, sheathing is no longer necessary, and the composite ship as a fighting unit has long since disappeared.

Professor Hovgaard is a strong advocate of the more extended application of the longitudinal system of framing in battleships, cruisers, and destroyers, and gives sketches and details of his proposed constructions on these lines. In the case of the first two classes quite a good case is made out, and it seems probable that, on the basis of equal strength of ship girder, a saving in weight would be obtained by adopting a system of longitudinal framing on the lines suggested; but in the case of smaller vessels, such as destroyers, the advantages do not appear to hold good. The construction proposed for this latter class, in which a series of continuous longitudinal girders are worked externally to the transverse frames, is open to objections of a practical nature. The erection and fairing of a vessel built on this system would be a matter of considerable difficulty and expense, as would also the slotting of transverse frames and beams of the sections suggested in way of the continuous side and deck longitudinals. At least one destroyer has already been built on a system of longitudinal framing, and is now in service, but in that case no saving in weight was gained over a transversely-framed sister-ship, while a serious loss of space occurred in every compartment owing to the large number of brackets necessary to connect each longitudinal girder to the bulkheads. It was also found necessary to adopt transverse framing at the ends of the vessel on account of the congestion of girders at these points due to the fineness of the vessel. On the whole the present system, in which very strong girders are run continuously through the boiler-rooms in way of the boiler feet and extending into the engine-room in the form of deep engine-seating girders (the whole extending over fully 50 per cent. of the length amidships) and efficiently pillared to the machinery coaming on the upper deck, is very satisfactory and lends itself in combination with a deep, continuous vertical keel to easy and rapid and, therefore, cheap construction and erection.

One of the best chapters is that dealing with bulkheads—a subject of extreme importance in all vessels and of particular interest and importance to builders and owners of merchant vessels at the present time.

The practical considerations which influence the arrangement of plating and stiffeners are stated and critically examined in a most able manner. The stiffening receives special consideration, and is illustrated by several sketches. A series of diagrams showing the relationship existing between the observed and calculated deflections of bulkheads under a varying head of water are of great interest and importance, and illustrate in a very clear manner the relative values of the different methods of attaching stiffeners at the heads and heels.

In view of experience gained, it seems not improbable that more attention may be

given in the near future to the subject of elastic bulkheads, and the sketches given of existing types and proposed new constructions are therefore of special interest.

Chapters are devoted to armour and protective deck-plating, stems and stern-posts, caulking, etc., and these contain much that is interesting in contrasting the methods adopted in the different navies. The scope of the book is such that it embraces the essentials of both practical and theoretical work, and while it presents much that is novel and interesting in a general way, its chief value lies in the demonstrations which are given of the application of scientific principles to the design of those parts of the ship's structure which are at present most frequently fixed up by rule-of-thumb methods, without any direct regard to the strength necessary or the weight involved. Not only to the student of the science of ship design, and to the naval architect who desires to ensure the most economical distribution of material in all parts, but also to the designer who has the courage to emulate the author in his efforts to break away from conventional design and evolve new and better systems of construction, Professor Hovgaard's book will be found of the utmost value.—*Engineering*, London.

CONSERVATION OF WATER BY STORAGE. By George F. Swain, M. I. T. '77, Professor of Civil Engineering, Harvard University. Yale University Press, New Haven, 1915. 8 vo.; 384 pp. Illustrated. Price, $3.00 net.

Active in the founding of the Sheffield Scientific School at Yale, Chester S. Lyman was for a generation professor of physics on its staff. In his memory there was established in 1910 by his son, Chester W. Lyman, a fund whose income should provide for series of lectures to be given at the school on "Water Storage Conservation." The first series was by Walter McCulloh, and the second by Frederick H. Newell. The third, of five lectures, was delivered by Professor Swain in 1914 and has been amplified and printed in the volume under notice.

His commission has been broadly interpreted by the author. Attention has not been confined to storage or even entirely to conservation of water. The aim has been rather to point out a sound public policy with reference to development of the water-powers of our rivers, whether with or without special storage; to emphasize the importance of forest conservation, because of its bearing upon stream flow; and finally to discuss the conservation of life and property against destruction by floods.

That the author is eminently fitted by training, experience and thought to cope with these questions, great and complex as they are, is beyond doubt. At the outset of his professional career he made an extensive study and elaborate report, for the Tenth United States Census, on the water-power development and resources of the Atlantic coast water-shed. As a teacher and writer these studies were continued in succeeding years. He was one of the authors of the 1899 report upon the water-power of North Carolina. In 1908 he was appointed by President Roosevelt a member of the National Conservation Commission, and in 1913 presided as chairman of the Water-Power Committee of the Fourth Conservation Congress, at its Washington meetings.

The writer knows of no other publication which presents so complete an outline of the broad features of the water-power question as it exists today, with the related problems of forest influence and flood control. With six appendices containing, among other things, the General Dam Acts of 1906 and 1910; the

Coosa River Dam Act of 1911, and President Taft's veto message thereon; the Connecticut River Dam Bill of 1913 and Secretary Stimson's statements relating to it; a Memorandum of Acts of Congress concerning Power Privileges at Government Dams, from 1888 to 1911; the Wisconsin Water-Power Law of 1913; and a seventh appendix giving upwards of one hundred selected references bearing upon the various questions that are discussed, the book will be an invaluable aid to one who wishes to study the subject in detail. A student who might read it with but little interest in water-power engineering, or even in the particular economic questions involved in the government's attitude toward water-power development, would be richly repaid if he did no more than take to heart the author's words on straight thinking and on the danger of readily accepting the conclusions of the man of prominence or authority who is nevertheless an illogical reasoner.

In considering the conservation of natural resources it is important to start with a right conception of what the phrase properly means. This the author points out to be,—not withholding a resource from use,—but putting it to service, without unnecessary waste. Certain resources, such as coal, are practically not renewed; others, such as forests, are self-renewing; while water-power belongs in a distinct class and is unique in that when not utilized it is wasted. If used it presents double, or even triple conservation, since first, a resource is employed which would otherwise go to waste; secondly, coal is saved; thirdly, the water-power stream may be greatly improved thereby for navigation, irrigation or other purposes. The author believes that true conservation calls for the greatest possible use of our streams for power, and he constantly opposes the attitude of those whom he terms "so-called" or "self-styled" conservationists, who seek to hamper such use on streams under Federal control with burdensome and discouraging restrictions. These people fear the growth of a monopoly in water-power which will hold the country more and more at its mercy as the coal supply wanes; while the author believes that no evil can result that cannot be legally remedied, or that will be so serious as the loss of multiple conservation if a large use of the streams be prevented.

In examining into the relations of the Federal Government to water-power streams one is led deeply into legal questions, opinions and decisions. At the bottom lies the principle of riparian rights, which is enlarged upon in the second chapter. Whatever power of control over fresh navigable streams is possessed by the government is recognized as arising under the commerce clause of the Constitution and as being for purposes of navigation.

If the government build a dam to improve navigation, it may control the flow past the dam to any extent necessary to that end, even to monopolizing the entire flow. If, however, there be surplus water, not needed for navigation, its use for power belongs to the riparian owner, unless the Government have acquired the riparian rights by purchase. There is said to be little demand from private parties for surplus power from such dams, because of the recognized right of the government to interfere in the interests of navigation.

The principle controversy of recent years has arisen where the Government has been asked to permit private parties to build dams, primarily for water-power purposes, but which by means of locks might sooner or later form a part of a scheme for extending navigation. Inasmuch as there is no doubt of the basic right of the government to exercise control in behalf of navigation at such dams, it is evident that in this class, as in the preceding, the water-power is in the nature of a by-product, as the author puts it.

The burning question is, Shall the government impose tolls for power developed at such privately-built dams? There is a wide difference of opinion about it. The author holds, with many others, that the government has no riparian rights, unless it acquire them by special purchase, and that it therefore has no legal right to charge for the power; furthermore that, even if it had the right, it would not be in the interest of true conservation to exercise it. Another class of people maintains stoutly that permission to develop power on navigable streams should not be granted to private parties unless subject to various restrictions, including an annual rental. The Congress has thus far been opposed to the imposition of tolls for power, though acts passed within the last fifteen years have successively added restrictions, such as requiring a special act for each development, the building of locks free of expense to the government, revocable franchises, limit of tenure to fifty years, and so on. Such conditions the author believes to have been a serious hindrance to water-power development.

In quite a different class from the water-powers at the government-built or at the privately-built dams on navigable rivers are those in the public domain. Here the government owns the riparian rights, and therefore legally controls power development. Consequently the author agrees that it should not give away what in this case is a real asset, but should make a reasonable charge for power. This is difficult to fix wisely, but he suggests that it might properly be based upon the excess of earnings above a specified rate on the invested capital. At present there are serious hindrances to the development of power on government lands in that a multiplicity of government authorities must be dealt with, the permit obtained is revocable at any time and is subject to such conditions as the department granting it may then or thereafter see fit to impose. Such circumstances discourage the investment of private capital.

In the chapter on "Forests and Stream Flow" is given the reasoning which is believed to demonstrate the favorable influence of forests, on the steep slopes of the higher water-sheds, in equalizing the flow of the streams and in lessening soil erosion and the consequent silting of the stream channels. The question is directly connected with forest conservation, since it is only on the ground of beneficial influence of forests upon river navigation that the Federal Government has constitutional power to purchase lands for forest reservations. The value of forests as equalizers of flow is denied by some scientists, and a sharp controversy has been waged in recent years with respect to it, with the author as a prominent contestant.

The concluding chapter deals with "Floods," damage from which appears to be steadily increasing in this country and in one year, 1907, was estimated at more than $100,000,000 along the Ohio River alone. Analysis is made of the causes of floods and of the various methods available for modifying them. Forestation on steep slopes is helpful locally in retarding run-off, but the author regards its importance for large streams as often much exaggerated. Reservoirs are of value for the upper reaches of rivers, but on the Mississippi, where at the headwaters is the largest reservoir system in the world for river regulation, the effects are said to be inappreciable one hundred miles below St. Paul. Special study is therefore needed for each important case, with a wise selection from among the various methods of prevention at command, or perhaps a combination of several methods.

A chapter on "Technical Aspects of Conservation by Storage" gives an outline of conditions affecting the value of streams for power, of the preliminary investi-

gations and succeeding steps in construction of works, and a statement of the fundamental advantages and disadvantages of water-power as contrasted to that from steam. Many striking and beautiful half-tones illustrate this and other chapters of the book.—DWIGHT PORTER.

THE CLASS OF 1874, M. I. T. Class directory with biographical sketche of the members and their pictures taken during college days and at the present time; published by the class.

The compilers of this book have succeeded in securing biographical sketches from practically every man in the class, and in most cases the biographies are accompanied by early and late pictures of the member. The book also contains a list of the students enrolled at the Institute October, 1870, with an introduction. It is printed on heavy coated paper and is bound in cloth covers.

CLASS OF 1875. Directory of the class, with biographical sketches; published by the class.

E. A. W. Hammatt, secretary of the class, who compiled the book, has secured responses from a very large number of members. The book contains also a list of the men in the class of '75 as printed in the M. I. T. *Catalogue* of 1871–2. An interesting feature of the book is the geographical distribution of the members, which shows by far the greater number of the living members of the class are living in Massachusetts, principally in and about Boston.

RAILROADS—FINANCE AND ORGANIZATION. By William Z. Ripley, Ph. D., '90, Nathaniel Ropes Professor of Economics in Harvard University, with 29 maps and diagrams in the text. 8 vo.; pp. xx + 638. $3.00 net. (Just published.)

No such exhaustive treatment of our railway problem has ever before been attempted. . . . One must felicitate Professor Ripley upon the pronounced success that he has achieved. The second volume confirms the statement made in the review of the first that this will long remain the standard authority on the subject.—*The Nation.*

The second volume fully satisfies the expectations occasioned by the appearance of the volume on rates and regulation, some time ago. . . . The author has a happy way of exposing popular fallacy and in this particular has rendered a notable service in the present volume. There has long been a need for such a work. . . . The book is characteristic of the exhaustive study which he has made of railroad problems . . . and together with the companion volume on rates and regulation constitutes all that one need read on the subject of American railroads. —*American Industries.*

He has put into six hundred orderly, well written pages the largest and most valuable single body of fact and reasoning from them regarding investment and speculation in railroad securities that has yet been brought together. . . . Professor Ripley's book will give the investor more real knowledge of what his stocks and bonds really are than any other work.—*McClure's.*

He has done an immense work and one deserving of the gratitude of any one who aspires to have any real knowledge of the all-important economic questions which are now in process of discussion by the Interstate Commerce Commission, state legislatures and the public press. . . . The book as a piece of literature is readable. It can be strongly recommended to railroad men and to all other persons who are interested in the matters of which it treats.—*Railway Age Gazette.*

PUBLICATIONS OF THE INSTITUTE STAFF.

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ROBERT PAYNE BIGELOW. Growth. *Reference Handbook of the Medical Sciences.* Edition 3. Vol. 4. Pp. 780–787. Illustrated. 1914.

ROBERT PAYNE BIGELOW. Heredity. *Reference Handbook of the Medical Sciences.* Edition 3. Vol. 5. Pp. 185–208. Illustrated. 1915.

ROBERT PAYNE BIGELOW. Impregnation. *Reference Handbook of the Medical Sciences.* Edition 3. Vol. 5. Pp. 515–521. Illustrated. 1915.

GEORGE B. HAVEN and G. W. SWETT. The Design of Steam Boilers and Pressure Vessels. Vol. I, pp. 416. Illustrations, 200 cuts. Size, 6 x 9. New York City, January 1, 1915.

F. L. HITCHCOCK. A Classification of Quadratic Vector Functions. *Proceedings of the National Academy of Sciences.* Vol. I, pp. 177–183. March, 1915.

F. L. HITCHCOCK. On the Operator ∇ in Combination with Homogeneous Functions. *Philosophical Magazine.* Pp. 700–709. May, 1915.

HEINRICH O. HOFMAN. Discussion of Paper: The Surface Decarbonization of Tool Sheet. *Bulletin of American Institute of Mining Engineers.* P. 792. April 15, 1915.

HEINRICH O. HOFMAN. Lead. *American Year Book for 1914.* Appleton & Co., New York City, 1914.

HEINRICH O. HOFMAN. Recent Improvements in Lead Smelting. *Universal Industry.* Vol. 23. 1914.

HEINRICH O. HOFMAN. Metallurgy of Lead in 1914. *Engineering and Mining Journal.* Vol. 99, p. 89. 1915.

HEINRICH O. HOFMAN. Smelting and Refining of Lead. *Transactions International Engineering Congress.* Vol. 8. 1915.

GEORGE L. HOSMER and C. B. BREED. Principles and Practice of Surveying. (Entire revision of two volumes, text and reference book.) Volumes 1 and 2. Vol. 1, pp. 595; Vol. 2, pp. 443. Illustrated. Size, 12 mo. February, 1915.

W. HOVGAARD. Structural Design of Warships. Vol. 1, pp. 384. Illustrations, 186; plates 6; tables 23. Size, 4to. London, E. & F. N. Spon, Ltd., February, 1915.

E. A. INGRAM. Various Reviews and Notes in the *American Journal of Public Health* and in *Science Conspectus*. 1915.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY. Catalogue. *Bulletin of the Massachusetts Institute of Technology*. Vol. 50, No. 1, pp. 581. Size, 8vo. Boston, Mass., December, 1914.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. Programme. *Bulletin of the Massachusetts Institute of Technology*. Vol. 50, No. 4, pp. 491. Size, 8vo. Boston, Mass., June, 1915.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY. Report of President and Treasurer. *Bulletin of the Massachusetts Institute of Technology*. Vol. 50, No. 2, pp. 157. Size, 8vo. Boston, Mass., January, 1915.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. Summer Courses. *Bulletin of the Massachusetts Institute of Technology*. Vol. 50, No. 3, pp. 25. Size, 8vo. Boston, Mass., March, 1915.

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F. J. MOORE. Experiments in Organic Chemistry. Second edition. Pp. 27. Size, 8 x $5\frac{1}{8}$. New York, 1915.

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CHARLES H. WHITE. Influence of the European War on the Metal Industries. *Journal of Industrial and Engineering Chemistry.* Vol. 7, p. 59, pp. 4. January, 1915.

NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, *Sec.*, 32 Eliot Street, Jamaica Plain, Mass.

Col. A. H. Russell, '68, of Plymouth, Mass., a member of the first class that was graduated from the Institute and a prominent figure in army circles, died at his home in Plymouth on Monday, June 14.

The death of Colonel Russell will be keenly felt by the members of his class, as well as by alumni generally. He was always present at Tech gatherings wherever he was able to make the trip, and only a year ago he journeyed from Plymouth to Chicago to attend the meeting of the Technology Clubs Associated, which was held in that city. He was an ardent Tech man, always ready to further the interests of that institution.

Colonel Russell was born in Plymouth, Mass., December 24, 1846, the son of Andrew and Hannah Davis Russell. His preparatory school was Phillips Exeter Academy, where he was a good student and where he took active interest in athletic sports. After graduating from the Massachusetts Institute of Technology, he entered West Point in 1867. He was graduated from the latter institution in 1871, and was assigned as a second lieutenant to the Third Cavalry. He served in Arizona and in Nebraska until May, 1873, when he took part in Wheeler's exploring expedition west of the 100th meridian. After concluding that duty, he was sent to West Point as assistant professor of natural and experimental philosophy, and later as assistant professor of chemistry, mineralogy, and geology, and assistant instructor of ordnance and gunnery. He was transferred to the Ordnance Department, with the rank of first lieutenant, in 1876, and became a colonel in 1907. Colonel Russell represented the War Department at the Centennial Exposition in Cincinnati in 1888, and also represented the Ordnance Department at the Columbia Exposition in Chicago in 1893. During the war with Spain he was chief ordnance officer of volunteers, with the rank of major. From 1901 to 1904 Colonel Russell was chief ordnance officer of the Philippine Division, and had also served as acting chief of ordnance of the army at various times. He at one time was especially interested in developing rapid methods of measuring distance for use with naval or field guns. He was retired at his own request in 1908. He was a member of the Old Colony Club, the Plymouth Commercial and several Boston clubs, and the Army and Navy Club of Washington. He was unmarried and is survived by a niece living in Chicago, and a nephew, LeBaron Russell of Boston.

1870.

CHARLES R. CROSS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Edmund Kimball Turner died at the Corey Hill Hospital, Brookline, from pneumonia after a short illness, on May 6, 1915.

Mr. Turner was born in Marblehead, May 11, 1848. His father, Joseph P. Turner, was for many years cashier of the National Grand Bank in that town. His mother who died when he was a child was Mary K. Kimball of Marblehead.

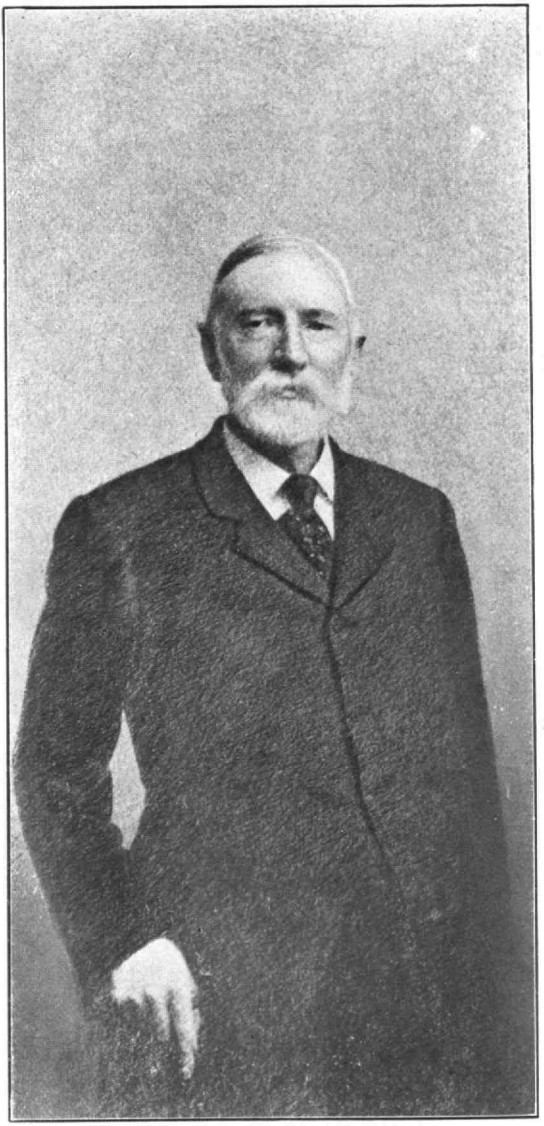
Mr. Turner entered the Institute in September, 1867. He chose the course in civil engineering from which he graduated in 1870. He was a diligent and able student taking a high stand in scholarship and both by this and by his manly character won the esteem alike of his teachers and classmates. His personality and character were such that he took a high position in the military work of the Institute and became one of the captains of the Institute battalion.

His first work after his graduation was that of engineer of construction on the Nashua, Acton and Boston Railroad, following which he was appointed chief engineer of the Fitchburg Railroad, which position he held for about eighteen years. At the end of this time he resigned and began private practice in Boston as a consulting engineer, a work which he continued up to the time of his death. In 1895 he became consulting engineer of the Massachusetts Railroad Commission in which position his advice was invaluable.

He served on many important commissions appointed by the courts for the purpose of abolishing grade crossings throughout the state. He was also consulting engineer for the Fitchburg Railroad Company and made annual inspections of the property. He was a director of the American Society of Civil Engineers from 1899 to 1901, a member of the society at the time of his death and also a member of the American Institute of Consulting Engineers. During the last quarter of a century or more Mr. Turner made an annual trip to Europe. He was always an enthusiastic student and devoted much of his time when abroad as well as at home to the study of transportation matters. One closely associated with him for many years says, "I know of no better authority on that subject within this country or abroad than Mr. E. K. Turner."

One of Mr. Turner's friends in the legal profession writes as follows regarding his less known services:

> Entirely apart from Mr. Turner's services in the strict lines of his profession, he was much sought after by his friends and others for advice on legal and business matters and on affairs of property interests. His selection as executor of the William C. Todd estate, involving a very considerable sum of money given for educational purposes and as to which there were several legal controversies, is an illustration of how he was regarded by one of the early business men of New England. Those who had occasion to consult him always obtained a sympathetic hearing and definite advice that was always honest and sound, though perhaps not always in accordance with their desires.



Edmund K. Turner, '70

Mr. Turner was a man exceedingly well read over a wide range of subjects; a lover of art and music and especially of all that was beautiful in nature. He was of reserved demeanor, never a man who carried his heart on his sleeve, but he endeared himself greatly to all who saw enough of him to become acquainted with the real man. A classmate, himself an engineer of note, now widely separated in distance from the Institute writes:

His professional accomplishments and judgment were unquestionably of the highest order although veiled by a modesty that precluded display before the popular view or a wide acclaim of his valuable work. . . . A sincere, steadfast, competent, clear-headed man, he was an example to his remaining classmates which others may do well to emulate.

Mr. Turner's interest in the Institute was unfailing. He served as class representative on the Alumni Council from its beginning, and in his will he constituted the Institute the residuary legatee of his estate.

1872.

C. Frank Allen, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The following article on Charles Sedgwick Minot by Charles W. Eliot recently appeared in *Science:*

" I wish to dwell in this paper not on the scientific attainments and successes of Charles Sedgwick Minot, but on the mental and moral qualities which his career illustrates and which made him what he was.

"Young Minot did not follow the traditional course of education for the son of a well-to-do Boston lawyer. He did not go to Harvard College, but to the Massachusetts Institute of Technology and his first degree, that of bachelor of science, was obtained from that technical school. His major subject in that school was not the common one of engineering, but the uncommon one of natural history. He later pursued his studies in this unusual subject at Leipzig, Würzburg and Paris. Then, returning to Boston, he took the degree of doctor of science at Harvard University in 1878, again in the subject of natural history. His education, therefore, showed his determination in following his bent, and his independence in parting from his boyhood associates and his family's habitual practise in regard to the education of sons.

"Then, as now, the only career open to students of natural history was a professorship in some branch of that subject, but this was not the career to which Minot looked forward. His studies were all histological and embryological, and their most practical and useful applications seemed to him to lie somewhere in the field of medical science and education.

"Two years later he accepted two appointments in connection with Harvard University; one an appointment as lecturer in embryology in the medical school; the other an appointment as instructor in oral pathology and surgery in the dental school.

"These appointments were procured for him with some difficulty, for he was not a doctor of medicine, and it was an unwelcome idea for the medical faculty that any instruction whatever should be given in the medical school by a person who had never taken the degree of doctor of medicine.

"He accepted both these appointments with alacrity, although dentistry was not recognized then as a medical specialty, and immediately showed himself to be a competent lecturer and laboratory teacher in subjects which depended on the facile use of the microscope by both teacher and students. The place he took in the dental school had, just previously, been filled by Arthur Tracy Cabot, who had shown by his acceptance of that appointment his sympathy with the efforts of the university to lift and improve the dental school and the dental profession, and his prophetic belief that the relations between dentistry and clinical medicine were to become much more intimate than they had been.

"In 1883, Minot was advanced to the position of instructor in histology and embryology, and this subject was given a satisfactory place in the curriculum of the medical school. There was still resistance to the appointment of a teacher who did not hold the degree of doctor of medicine, but Minot had, in three years, proved not only that he was the vigorous teacher, but that he had business qualities which would make him a remarkably good director of a laboratory for the instruction of medical students. He devised an excellent method of buying microscopes for the whole class and loaning them to students for a term fee which was sufficient to keep every microscope in repair and in time to repay their whole cost.

"He studied every detail of the furniture and fittings of a medical laboratory and decided on the shape and the size of the desk room which each student needed. He made highly intelligent use of the card catalogue for his growing collection of embryological specimens, for his library and for his student records. He became expert in everything relating to the conduct of a laboratory and set a good example to all the other teachers who were conducting laboratories in the medical school. As the school was then in the process of changing from a school in which the lecture predominated to a school in which the laboratory predominated, Minot became more and more useful to the medical school as a whole.

"In the year 1887, it was possible to appoint him to an assistant professorship of histology and embryology. At the expiration of the usual term for an assistant professor (five years) he was made professor of histology and human embryology, and in this appointment, with its new title, Minot's special subjects and his high merits both in teaching and in research were fully recognized.

"Between 1881 and 1883, the medical faculty planned and erected a new building for its own use on Boylston street, at the corner of Exeter street—a building in which laboratories occupied a large

part. Minot obtained for his courses an excellent laboratory of his own planning. There, in twenty years, he built up his unique embryological collection; a monument to his insight, skill, industry and power of inspiring others with his own zeal. In less than twenty years this building became inadequate for the best development of the medical school, and the new buildings of 1905 began to be planned. The fundamental consideration in planning and constructing the new buildings was to adapt them thoroughly to the new method of instruction in medicine—a method which relied chiefly on individual instruction and laboratory work. Minot's careful study of the best laboratory conditions for small sections, in well-lighted and well-ventilated rooms, with a desk for each student, was taken up again and contributed much to the final success of the architect's plans. The accommodations for the department of histology and human embryology conformed to Minot's conception of the present and future needs of his department and served as a type for the laboratories of other departments in the school.

"It became possible to enlarge the number of teachers employed in the department, and its intimate connection with the teaching of anatomy was recognized. When Dr. Thomas Dwight, professor of anatomy since 1883, died in 1911, the school was fully prepared to recognize the fact that anatomy and histology belonged together. In the meantime, the James Stillman professorship of comparative anatomy had been endowed and to that Professor Minot had been transferred in 1905. No professor of anatomy was appointed to succeed Dr. Dwight, but in 1912 Minot was made director of the anatomical laboratories in the Harvard Medical School. This action of the faculty and the corporation crowned Minot's professional career as a student and teacher of natural history, applied in medical education. By clear merit he had made his way and the way of his department in the school and without a medical degree had become the head of anatomical teaching in a medical school. Under him in the anatomical department were two assistant professors, one of whom was called assistant professor of anatomy and the other of histology. Fourteen other teachers were employed in the department of anatomy and histology, three of whom bore the title of histology and embryology, Minot's original subjects in the medical school.

"Minot's advance through the medical school was not facilitated by a yielding or compromising disposition, or any practise of that sort on his part. On the contrary, he pursued his ends with clear-sighted intensity and indomitable persistence; suavity and geniality were not his leading characteristics in discussion or competition and he often found it hard to see that his opponent had some reason on his side. Like most independent and resolute thinkers, he had confidence in the soundness of his own reasoning, and in the justice of the cause or movement he had espoused.

"He was upright in every sense of that word. His loyalty was firm and undeviating, whether to an ideal or a person or an institution, and affection and devotion, once planted in his breast, held for good and all.

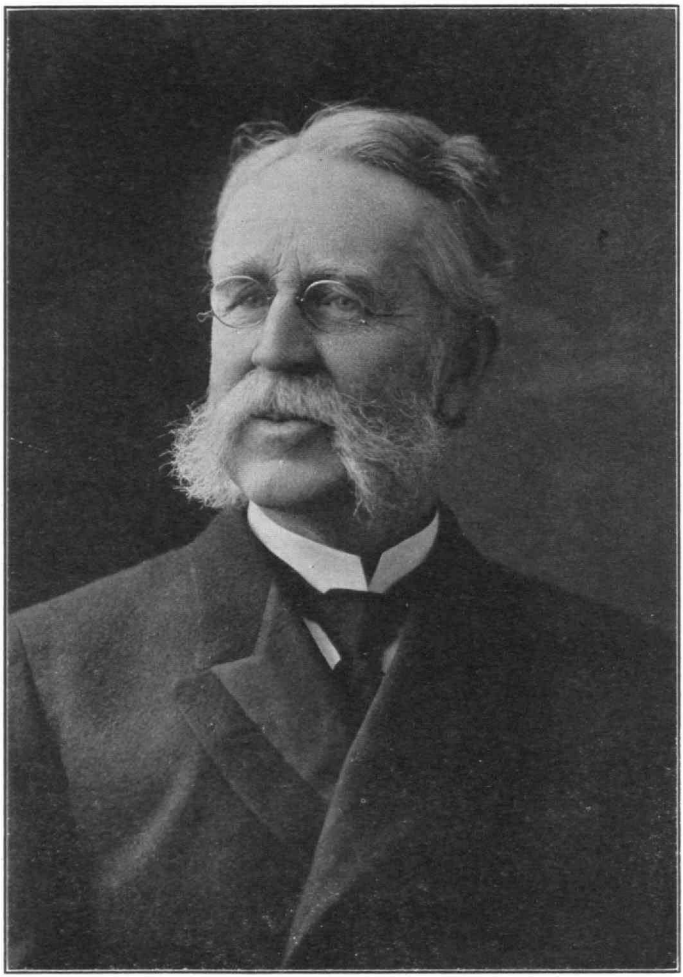
"His book on 'Human Embryology' published in 1892 made him famous throughout the learned world, so that he was elected to learned societies in Great Britain, Italy, France, Germany and Belgium; as well as to all appropriate American societies. He also received honorary degrees from the universities of St. Andrew's (Scotland), Oxford (England), Toronto (Canada), and Yale. He enjoyed calmly and simply the honors thus paid to his scientific attainments and services by well informed and impartial judges.

"In 1913 he was Harvard exchange professor at the universities of Berlin and Vienna, where he gladly availed himself of many opportunities to expound to his German colleagues the advances in natural history, including medicine, which were due to American investigators.

"His hair and beard were now whitening, but he felt all the ardors of youth, and among them, fervid patriotism. In scientific investigation Minot showed imagination, penetration and eagerness, but also caution. In 1907 he gave a course of lectures at the Lowell Institute on 'Age, Growth and Death' and made them the basis of a book published the following year. For him, the subject meant cell metamorphosis, with which he had been familiar through all his studies in histology and embryology, but what he sought in this subject of 'Age, Growth and Death' was a scientific solution of the problem of old age which should have—I quote his words—'in our minds, the character of a safe, sound and trustworthy biological conclusion.' He ventured to think that some contemporary students of the phenomena of longevity had failed to exercise sufficient caution in forming their conclusions. Nevertheless, Minot was a scientific optimist; full of hope for perpetual progress and for useful results at many stages of the long way. These characteristics appeared clearly in the following passage, taken from the first lecture of that course at the Lowell Institute:

" 'I hope before I finish to convince you that we are already able to establish certain significant generalizations as to what is essential in the change from youth to old age, and that in consequence of these generalizations now possible to us new problems present themselves to our minds, which we hope really to be able to solve, and that in the solving of them we shall gain a sort of knowledge which is likely to be not only highly interesting to the scientific biologist, but also to prove in the end of great practical value.'

"There spoke the cautious, modest, hopeful scientist, expectant of good. Such is the faith which inspires the devoted lives of scientific inquirers."



Alexis H. French, '73

1873.

SAMUEL E. TINKHAM, *Sec.*, The Warren, Roxbury, Mass.

Alexis Henry French, a member of the class of '73, M. I. T., died at his home in Brookline, Mass., Monday, May 3, 1915.

The following account of his life is taken from the *Brookline Chronicle* of May 8, 1915:

"Mr. French's death, while not altogether unexpected, was very sudden and is a shock to all his many friends. He was a victim of that insidious disease, arteriosclerosis, bringing him premature old age in a few months and ending with a painless sleep which had no waking.

"Last autumn, he was obliged to give up his full participation in public affairs and attend to only such matters as were brought to him from time to time. During the fall and winter he hoped and planned to resume his usual duties, but later, at his request, he was given a leave of absence from the first of this March without pay.

"Mr. French had been town engineer since the establishment of the engineering department by the town in 1894. Prior to that time he did the larger part of the public engineering work since he came to Brookline in 1871, thus making an enviable and nearly unbroken record of service for forty-four years. Such a life and service deserves the attention and appreciation of all good citizens, particularly when it is given at a personal sacrifice as in later years and with the single minded view of the public good.

"Mr. French was born May 2, 1851, at North Weymouth, Mass., and had quietly celebrated his sixty-fourth birthday a few hours before his death. His parents were Henry J. and Lucy H. (White) French, and he leaves a brother, D. Willis French, a prominent water works engineer of New York, and a widowed sister, Mrs. John Libbey, of Weymouth.

"The education of the Weymouth High School was supplemented by the purchase of an apprenticeship in the office of Shedd & Sawyer, of Boston, one of the best known engineering firms of the country. Not fully satisfied with the amount of definite instruction received in this way, he took a position in 1871 as assistant to Mr. George Tyler, then acting for the town as engineer and superintendent of streets. He later entered the Massachusetts Institute of Technology as a special student, associated with the class of '73, successfully spending there two detached years, which were all the time he felt he could afford.

"On the retirement of Mr. Tyler in 1875, Mr. French was given an office in the town hall, which he shared for some time with the present superintendent of streets, Mr. Michael Driscoll. In consideration of the use of this office, special reduced rates were fixed for services furnished the town and both public and private business was conducted there. This arrangement continued until 1894,

when the salaried office of town engineer was created and Mr. French was appointed.

"On January 14, 1880, he married Miss Alice Blanchard Loud of Weymouth and not long after built their present home on the corner of Cypress street and Cypress place. There are no children.

"Mr. French has been identified with the greater part of the material development of Brookline. He has seen the town grow from a population of 8,000 to one of 30,000. Except for the initial work on the main outlet sewers, the entire sewer and drainage system of the town has been constructed under his direction. This is underground and forgotten in a measure by us all. It, nevertheless, represents a tremendous expenditure and involved many difficulties which have been successfully overcome.

"The park and playground system, with but few minor exceptions, has been installed and maintained under the direction of Mr. French. This is a visible and constantly appreciated monument to the skill with which his own and the designs of others have been carried out at reasonable expense and in permanent form.

"The stone bridges across Muddy River and its branches from Carlton to Chestnut streets were originally designed and were built under the direction of Mr. French. They are examples of the best of taste. The Longwood avenue arch, when built, was one of the longest spans in this country and is now a favorite subject for artists and photographers.

"The layout of new bridges, new streets, and the widening of main thoroughfares has also been a large part of the work of Mr. French in both his private and public capacity. The almost forgotten grade crossing eliminations at Washington and Cypress streets, the several widenings of Boylston and Hammond streets, were among the important items.

"Alongside of the matters mentioned, there has been the great mass of minor matters which really make up the major part of the professional work of a municipal engineer. This incidental work which has been steadily increasing for many years is due to the modern tendency to make of the municipal engineer the technical executive of all public affairs. Mr. French's ripe experience and wide observation made his judgment valuable and in constant demand.

"Mr. French was a member of numerous social, technical, and quasi-public bodies, viz: the American Society of Civil Engineers, the Boston Society of Civil Engineers, the Engineers Club, the Appalachian Mountain Club, the Massachusetts Highway Association, the National Geographic Society, Harvard Church and Brotherhood, the Boston Congregational Club, the Brookline Historical Society, and the Technology Alumni Association.

"That he was active in the affairs of these bodies may be inferred from the fact that he was a past president of the Boston Society of Civil Engineers, the oldest and one of the largest engineering

societies in America. He was also past president of the Appalachian Mountain Club and of late, one of its trustees of real estate.

"He joined the Harvard Congregational Church in 1874 and since has been a constant worker in its activities. As member of the prudential committee, the care of the buildings and grounds has been his special care and he at one time served as president of the 'Brotherhood.'

"In 1894, when appointed town engineer, he formed a partnership with one of his assistants under the name of French & Bryant, under which name all private professional business was conducted until he withdrew his name in 1908. From his appointment on, Mr. French devoted all his time to public affairs and none whatever to private business."

The following editorial tribute is taken from the same paper:

"What has made Brookline well governed has been not only the high character of the officials it has elected to office, but the excellence of the under-officials that it has had the good sense to keep continuously in charge of the departments committed to their care. In none of these men has it been more fortunate than in Mr. French, whose ability was such, and was appreciated so heartily, that it contributed in no small degree to the success of the town in maintaining the standard of conducting municipal government as a profession and not as a game of politics. The town may feel a proper pride in Mr. French's long and efficient service as town engineer. It must regret the termination of this service prematurely, at an age not sufficiently advanced to imply declining usefulness, and must for some time feel in doubt whether Mr. French's place can be filled by a permanent official who will measure up to the unusual standard set by his predecessor. Those to whom Mr. French's sterling character, unassuming but warm-hearted nature, and attractive personality had endeared him will also experience a profound sense of loss. The qualities of integrity, cultivation, and gentlemanly courtesy which lend dignity to the government of any community are exemplified in many of our public servants at the Town Hall, but in none more strikingly than in Mr. French's case. His life made up an integral and important part of that Brookline in which we all take pride, and which we wish to transmit in an unbroken tradition to the Brookline of the future."

1877

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

WALTER JENNEY

Died May 8, 1915

Walter Jenney was born in South Boston, February 7, 1856. He was the son of Bernard Jenney and Mary F. Coney Jenney, who were early settlers and had always been identified with South

Boston affairs. His father was born in Boston on the site of the present building at Milk and Oliver streets, and is still living at the age of eighty-eight years.

He graduated from the Bigelow Grammar School and then entered the English High School from which he graduated in 1872. Shortly after this he entered the Massachusetts Institute of Technology, graduating with the class of '77 in the course of mining engineering which at that time embraced a large amount of chemical research and investigations. During his course at the Institute he was prominent in many of the student activities which, however, were much less than at the present day. His military experience in the English High School was of value in military affairs at the Institute and he was appointed captain of one of the companies of the battalion which at that time was under the command of Lieutenant Zalinski, U. S. A., at that time detailed as military instructor to the Institute. During this period, Jenney was one of a committee of '77 who selected the Institute colors of cardinal red and silver gray which were eventually adopted permanently by the Institute. During his entire course he set high ideals in his studies and conduct and with his genial manner was much beloved by his classmates and professors.

Immediately after graduation he took a position with the Jenney Manufacturing Company as superintendent. This company, of which his father, Bernard Jenney, is president, is engaged in the refining of petroleum, manufacturing of light oils, etc., and is one of the largest concerns in eastern United States.

His technical training and methods of investigation and research enabled him to solve many difficult problems that were constantly arising and the results have been shown in the successful career which the company has had. In 1900 he was made vice-president and general manager but still retained his close connection with various details of the business. Notwithstanding his close attention to business he interested himself in public affairs and was a member of the Trade Association of South Boston and served as second vice-president for several years. He took an active part in the agitation for the industrial improvement of the district for better street car service and all civic improvements tending to better conditions.

He was a member of the South Boston Savings Bank and had served for many years on the Board of Investment. He was a member of the Boston Society of Civil Engineers and kept himself informed of technical progress in various lines with which he was connected. He belonged to the Boston City Club, the common meeting ground of many of his business friends and acquaintances. He belonged to the Masonic Order as a member of St. Omar Commandery and Robboni Lodge, Royal Arch Chapter.

He married June 30, 1880, Elizabeth Bowers Hedge of South Boston, who survives him together with three sons, Herbert H., Charles S., and Walter H. One son, Henry Hedge, died in 1883.

Walter Jenney, '77

The home life and associations with the large family about him was thoroughly appreciated. He was very musical and was for many years an active member of the Handel and Haydn Association, a good pianist and also church organist, at times substituting for the regular organist at the church which he attended. His children were musical and with violin, 'cello, clarionet and piano a home orchestra proved a great attraction.

He enjoyed nature and outdoor life and was very familiar with the New Hampshire mountains, having made many tramping trips during his summer vacations, and taken many photographs of the scenery.

He was a charter member of the Appalachian Mountain Club and for two years had served as president and held the office at the time of his death. He was a lifelong member of the Hawes Unitarian Church and a constant attendant at services and earnest in matters connected with the parish. He had been chairman of the standing committee of the church for twenty-five years and also chairman of the singing committee.

He showed great interest in affairs connected with the Institute and was the class representative to the Alumni Council for a period until he was obliged to resign on account of other matters. He was a constant attendant at the annual class meetings of '77 and very seldom missed a meeting and always had an interesting subject to discuss.

His earnestness and faithful attention to important duties in all his work have shown a strong character that will leave a lasting impression with all with whom he came in contact.

He died of pneumonia after an illness of six weeks, during which time he appeared to be improving and it was thought that the crisis was past. A change came suddenly and he failed rapidly, passing away quietly Monday, May 8. The last services were held in the Hawes Unitarian Church which was filled with relatives and friends, and representatives from various organizations to which he belonged.

Interment was in Forest Hills Cemetery.

1879.

CHARLES S. GOODING, *Sec.*, 28 School Street, Boston, Mass.

In accordance with the call for the annual meeting, issued by order of Walter Large, president, and Edwin C. Miller, secretary, the postponed annual meeting of the class of '79 M. I. T., for the election of officers and transaction of other business, was held at the Boston City Club, Somerset street, on Monday, June 7, at 7.45 p. m. The following members of the class were present: Barton, Cabot, Garratt, Gooding, Hazeltine, Howe, McQuesten, Miller, Morgan, Sargent and Stantial.

Mr. Gooding was elected chairman of the meeting and ap-

pointed a committee of two, viz., Garratt and Sargent, to count the ballots, with the result that the following officers were unanimously elected: President, Richard H. Morgan of Plymouth, Mass; vice-president, Harry B. Fullerton of Long Island, N. Y.; secretary, John W. Cabot of Boston, Mass.; business committee, Sullivan A. Sargent of Boston and Henry A. Boyd of Bethlehem, Pa.

Mr. Morgan in a very beautifully worded speech thanked the class for the honor done him, but stated that he felt he must decline on account of the fact that he is away from home and out of the U. S. A. a great deal of the time and that, therefore, it would mean that he accepted the position of president but some one else would do the work. Upon being urged, however, by all of the members of the class present and being told that there was no work; in fact that one of the members had been president for two consecutive years and had never done any work, he decided to accept the position of president and is, therefore, president of the class, for 1915 and 1916.

A very interesting letter from Harry B. Fullerton of Long Island, N. Y., was received accepting the position of vice-president.

Mr. Cabot absolutely declined to be secretary and, although very strongly urged to accept the position, decided that he could not do it justice. It was, therefore, voted that his declination should be accepted. It was then moved and seconded that Charles S. Gooding should be made secretary and, upon being put to a vote, he was unanimously elected as secretary of the class. The business committee was elected, as stated, and consists of Sullivan A. Sargent of Boston and Henry A. Boyd of Bethlehem, Pa.

Upon motion duly seconded it was also voted that Charles S. Gooding should be the representative of the class at the alumni council.

Letters from the following members were read by Secretary Miller: John W. Cabot, Hal Fullerton, William S. Hazeltine, Mrs. William N. McFarlane, Richard H. Morgan, George F. Riggs and Arthur M. Waitt.

A vote of thanks was extended to the retiring secretary, Mr. Miller, for the conscientious and efficient manner in which he had performed the duties of secretary for so many years.

The announcement of the death of Walter S. Allen at San Diego, Cal., was received with much sorrow. Allen was president of the class for several years and always manifested in act and deed a great interest in class affairs.

The secretary was instructed to write a letter from the class to Harry Campbell who is ill and is at present residing at Atlantic City.

After the reading of the letters by the secretary many of the members indulged in brilliant after-dinner speeches, stories and jokes, too numerous to be here set down.

Walter S. Allen, '79

Among other matters discussed was the European war and the result of the war was settled satisfactorily to those who discussed the same. The meeting adjourned after singing that beautiful and joyful ditty, "Das Grab Ist Tief Und Stille."

After adjourning the meeting those present were ushered through the new and beautiful club house of the Boston City Club. All expressed themselves as having had a fine time and indicated their intention to attend the next meeting of the class. After having seen the club house several of the members adjourned, at the invitation of President Morgan, to the Union Club and spent further enjoyable moments as guests of Mr. Morgan.

WALTER S. ALLEN.

Walter Spooner Allen of this city died May 31, at San Diego, Cal., where he had been staying for some time in an effort to regain his health. He was the first secretary of the Massachusetts board of gas and electric light commissioners and he was an authority on municipal questions.

Mr. Allen was the son of Frederick S. and Susan Allen and he was a member of one of the oldest New England families. He was born in this city on July 16, 1858. He received his early education in private schools and at the Friends' Academy and later he entered the Massachusetts Institute of Technology at Boston and took the B. S. degree in the class of 1879. He went abroad in the same year to continue the study of chemistry in the University of Leipsic, where he stayed two years and then returned to become a special student at Harvard, remaining one year. Then he accepted a position as instructor in chemistry in the Massachusetts Institute of Technology which he filled until 1885 when the state board of gas commissioners was created. He became secretary of this board.

In 1892 he resigned to enter the employ of the Boston Gas Light Company as assistant to the treasurer and general manager and served in that capacity until the fall of 1896. He was a student of the question of municipal ownership of street railways and gas plants and made several European trips to investigate the workings of the different systems in the cities of England and the continent. In 1897 he became the secretary of a special committee created by the legislature to investigate the relation of street railroads and municipal corporations. The report of this committee was adopted by the legislature substantially as recommended; the first time recorded when a special committee obtained a bill embodying its recommendations from the legislature to which it made its report.

Mr. Allen for many years was an active worker for the interests of the New Bedford Public Library and he was a member of the board of trustees for several years.

He was secretary and executive officer of the board of Paris exposition managers of Massachusetts and represented this state

at the Paris Exposition of 1900, besides being one of the United States delegates to the tramway congress at Paris.

Mr. Allen was the author of several works on public ownership. He wrote on this subject for the National Municipal League, the American Academy of Political and Social Science, "Municipal Affairs," "Municipal Journal and Engineer," and foreign reviews besides compiling a large number of official reports. For a number of years he was statistician of the American Telephone and Telegraph Company. He was a member of the Wamsutta Club, the St. Botolph Club of Boston, and the University Club of New York.

He leaves a widow and one child, a brother, George H. H. Allen, of this city, and two sisters, one of whom is Mrs. George M. Kingman, who resides here.—*New Bedford Evening Standard.*

1881.

FRANK E. CAME, *Sec.*, Metcalfe Apartments, Westmount, Quebec, P. Q.

FRANK H. BRIGGS, *Asst. Sec.*, 146 Summer Street, Boston, Mass.

Frank Briggs served as referee at the New England Intercollegiate Track and Field Meet which was held at the new Technology field, Cambridge. The field was very much approved by all the athletes.

He has also been elected referee of the cross-country run to be held at Franklin Park, Boston, the latter part of November.—Howard Barnes writes he is now permanently located in New York and will probably not go to the West Indies this summer.—Ed. Brown has been chief fugler at the one hundred and fiftieth celebration of the settlement of Penacook, N. H., which occurred the week of June 7. His son (M. I. T., '06) is editor of *Marine Engineering* and of the *Boiler Gazette.*—Ed Warren, state ornithologist of Colorado, has a very interesting article in a recent issue of the *Colorado Springs Gazette* relative to the large number of species of birds found in Monument Valley Park at Colorado Springs given by General Palmer. He enumerates 98 species which he personally has seen.

An interesting part of his article is as follows:

There is a four-footed depredator which, no doubt, does much damage, and one which is in some ways more difficult to control, and that is the common house cat. It is a well-recognized fact that there is no animal more destructive to birds than the cat, and it makes no difference if it is one which has been abandoned by its owner and left to rustle for itself, or a well-fed household pet—they all catch all the birds they can. Never believe a person who says his or her cat never catches birds, unless you know that cat is kept shut up all the time; any cat will do it if it has a chance. So far as bird catching is concerned, the only good cat is like the traditional good Indian. Mind, I am not blaming the cats, for they are simply acting according to their natures; but I do blame the owners of the cats who permit them to roam about seeking what they can destroy. I take the ground that the owners of the cats have no more right to allow them to go into the park and kill birds than they, themselves, have to go there and shoot birds. The park commis-

sioners should take some steps to abate this nuisance and I would recommend that they publish a notice that owners of cats must keep them away, and that such cats as are found in the park be summarily executed. Last year the pair of pheasants which are about the north end of the park had two or more chicks, but they disappeared, and the blame is laid on cats.

Our birds are an asset to the park and to the city, the worth of which is hardly understood. Economically, they are of the greatest value, destroying countless noxious insects which would otherwise make it difficult, if not impossible, to raise trees, shrubs and flowers there; and, aside from this, there is what one may term their aesthetic value, for their beauty of form, color and song, for there are but few people who do not, either consciously or unconsciously, like to see birds about, and who would miss them sorely if their numbers were depleted.

Charlie Churchill, who is well known as one of the best portrait painters in this country, is painting a picture of General Walker, as his contribution to New Technology.

1884.

HARRY W. TYLER, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The annual class dinner was held at the Boston City Club on Thursday, April 22, 1915. Present, Appleton, Bennett, Dearborn, Gill, Mellen, Puffer, Stuart, Tyler, Ward, W. A. Whitney, and W. M. Whitney. Cards or letters were read from about twenty-five other members of the class.

At the annual dinner of the Chamber of Commerce of the city of Troy, New York, which was held May 5, H. G. Hammett was elected president of that body unanimously. In the Troy *Times* is an editorial on the election of Mr. Hammett:

> Moreover, in the election of H. G. Hammett as president, the Chamber of Commerce has secured a chief whose citizenship in Troy has proved him to be possessed of good judgement, supervising force and the public spirit which is the largest factor in such an organization.

Announcement was made last month that Coleman du Pont has purchased the majority of the capital stock of the Equitable Life Assurance Society from J. P. Morgan. The stock in question was formerly owned by James Hazen Hyde. The stock, consisting of 502 out of the society's total of a thousand shares, was bought by Thomas F. Ryan for $2,510,000 in June, 1905. He placed the stock in the hands of three trustees, Grover Cleveland, Morgan J. O'Brien and George Westinghouse. The stock was bought from Thomas F. Ryan by the late J. P. Morgan in 1909. The trusteeship was continued by Mr. Morgan. This trusteeship will soon expire.

It is understood that Mr. du Pont's idea is not to sell the capital stock to the policyholders, but to retain it in order to effect a more thorough mutualization of the company by having all of the fifty-two directors named by the policyholders instead of having twenty-eight named by them as at present. It is also his intention to see that each policyholder will have a chance to exercise his voice in the management of the company.

1885.

I. W. Litchfield, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

One of the best class dinners that '85 has ever enjoyed was held at Young's Hotel on Saturday, April 3. The table was spread in the very room where the class held its dinner thirty years ago, and although the night was the most inclement of the whole winter, there were twenty-nine men present, the largest meeting we have had for a great many years. It was hoped that another stray classmate might wander in during the evening as everyone was desirous of seeing at least thirty men at the thirtieth anniversary.

The entire class was the guest of Charlie Eaton, president, and, our host had forgotten nothing that would contribute to the comfort and enjoyment of the evening. Those present were: Allen, Barr, Bartlett, Bates, Choate, Copeland, Dewson, Eaton, Fuller, Hildreth, Homer, F. Kimball, Litchfield, Merrill, Morss, Nute, Nye, Osgood, Page, Pierce, Plaisted, Rawson, Richards, Schubmehl, Spalding, Steele, Talbot, White, Worthington.

A number of the men present had not been with us for many years. Some of them had never before attended a class meeting—among the latter was Ben Copeland, and everybody recognized him; he was mighty glad to get back to the old class. Choate hasn't been with us for a number of years, and Nute is a rare visitor. Harry Barr is not often with us, and his visit was thoroughly enjoyed. A. C. Fuller, who does not meet with us very often, was also present.

A nominating committee was appointed to present the names of nominees for class officers. After its deliberation this committee nominated George Steele for president, suggesting that the office of secretary "be left vacant as usual."

When the coffee was brought on, President Eaton opened boxes of cigars which had been sent by Mrs. Oakes Ames as a little remembrance to the class. Through the thoughtfulness of President Eaton, Easter flowers had been sent to Mrs. Ames.

The committee in charge of the reunion made a report recommending that the anniversary be held at Quissett Harbor Hotel or at Harwich Port. A great deal of interest was manifested in the reunion, which will begin on June 17, and end on the 20th.

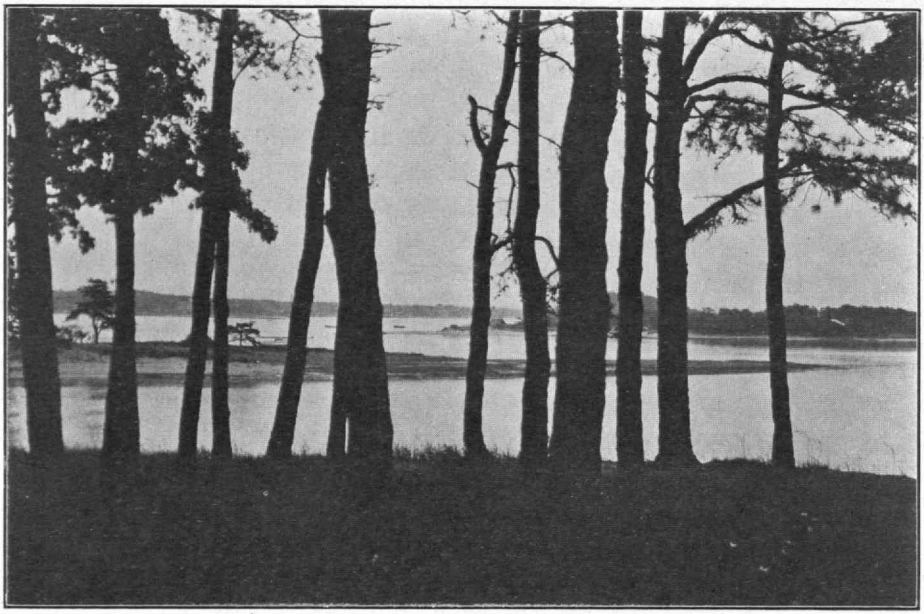
Billy Spalding extended an invitation to the class to take luncheon with him at his Marblehead house early in June, which invitation was heartily accepted.

One of the most interesting features of the dinner was the menu card, a copy of which was sent to each man of the class. On it were printed the pictures of President Walker with the Rogers Building as it appeared when we were at Tech, and President Maclaurin with a picture of the new buildings across the river. A number of songs were printed on the program, and with

H. J. Williams, Litchfield, Fiske, C. R. Allen, Plaisted, Steele, McKim, Robertson, Frazer, A. C. Fuller, R. H. Pierce, Schubmehl, Wilder, Bartlett, Spalding

On Veranda: Pierce, Morss, Fiske, Spalding, Steele, C. R. Allen, Dewson, Frazer
On Steps: Mullins, McKim, Schubmehl, Mr. Thompson (of The Inn), Plaisted
Standing: Litchfield, Worthington

THIRTIETH ANNIVERSARY OF CLASS OF '85



From Frank Page's "Over Jordan," Looking at Tech Island

Group at Frank Page's, June 17

THIRTIETH ANNIVERSARY, CLASS OF '85

REMINGTON-URQUHART PRESS
BOSTON

Al. Merrill at the piano and Lee Homer as chorister, the class rather outdid itself at this indoor sport.

Last month we received word from Bob Richardson that he had become connected with the Electric Share & Bond Company, 71 Broadway, New York City. We also regretted to learn that because of business engagements he would have to be in the West during the month of June so that he could not be with us at the reunion.—Harry Talbot lectured on the "Noble Gases" before the Phi Lambda Upsilon, Columbia University, on March 25.—At the National University Extension Conference, held at Madison, Wis., in March, Louis E. Reber of the class, who is dean of the University of Wisconsin Extension Division, spoke on the scope of university extension, its organization and subdivisions.—Henry J. Williams, who for many years maintained a chemical laboratory on Tremont street, Boston, Mass., has recently associated himself with the American Agricultural Chemical Company, as fuel engineer. His headquarters will be at 92 State street, Boston, Mass., but his work will cause him to visit the numerous plants of the company throughout the United States. Fuel problems, hard water problems, and many other chemical problems will come within his province.—At the spring meeting of the American Society of Mechanical Engineers, which was held at Hotel Statler, Buffalo, N. Y., June 22–25, Fred Newell gave a lecture on the "Engineer as a Citizen."—President Eaton is making a transcontinental tour in his motor car with the Panama-Pacific Exposition as his objective. His trip will be a most interesting one. He reports that he has conferred with the Institute authorities and arrangements have been made to have the '85 class tree, now in front of the Rogers Building, taken over to the new site and planted in a prominent position.

Billy's Spalding's luncheon to the class of '85, which took place at his King Hooper House at Marblehead, June 5, was one of the pleasantest functions the class has ever held. Sixteen members left the Westminster soon after twelve on that day and had a fine ride to the rendezvous on a beautiful afternoon. Those attending were Homer, Fuller, Nute, Parsons, Talbot, Schubmehl, White, Steele, Means, Frazer, Plaisted, Pierce, Bartlett, Williams, Spalding and Litchfield.

The King Hooper House, which is one of the show places of Marblehead, is filled with wonderful old furniture and bric-a-brac many of the pieces being of historic interest. The house was built about the middle of the eighteenth century, and at the time of its erection it was probably the finest residence in the country. At the top of the house is a large ball room, and the second floor boasts of what is known as a ship or cabin room, the ceiling being curved to simulate the under part of a deck of a ship, and the tops of the doors, flanking the mantelpiece, are at an angle to each other like the cabin doors of a ship of that time. In the cellar is an

immense fireplace with a spit for roasting a whole ox. The house contains a secret stairway leading to a small door in the rear which, at that time, opened on the water. This was undoubtedly used for evading the taxes imposed by Great Britain on imports.

The table in the dining room was laid in the form of a "T." Clam chowder and lobsters formed the basis of the luncheon, with a number of interesting details to fill in the chinks. While we were at the table a telegram was received from "Gazabo" Richardson, from Boise, Idaho, regretting his inability to attend.

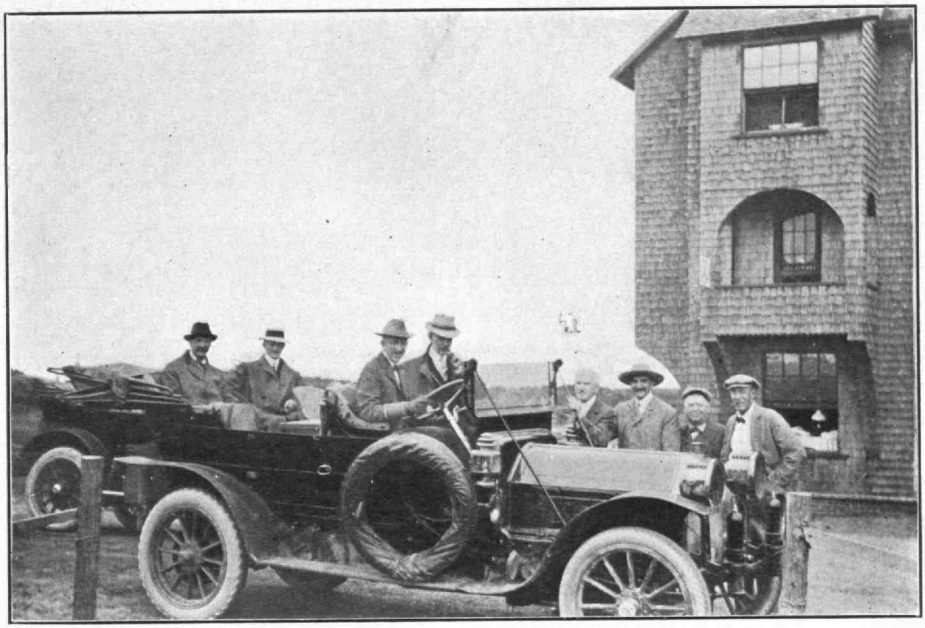
Those who attended the Jubilee banquet at the fiftieth anniversary of the Worcester Polytechnic Institute last month referred to the address of Arthur Little as the best of the evening. He noted the great increase of war-destructiveness brought about by new discoveries in chemistry, but mitigated this somber fact by showing how much more chemistry has done constructively. "Never was the future brighter for chemists of the whole country," he said, "for the nation is alive with a realization of the inconvenience and humiliation of being wholly dependent upon Germany in the matter of chemical supplies. The supremacy that Germany has enjoyed in this realm will inevitably pass after the war to the United States." The other speakers were Major-General Leonard Wood, Senator John W. Weeks, Mayor George M. Wright, and Howard Elliott, president of the New York, New Haven & Hartford Railroad.

—It has been announced that Harry Talbot has presented to the Institute a decorative gift of fireplace and mantelpiece to be installed in the chemical department of the New Technology Buildings. Offices of this kind are usually severe and repellent, and it is his idea to give the room an appearance of comfort and refinement. It would be a good plan if it were possible to carry out this scheme in the other offices of the Institute. This gift of Talbot's is intended to be an addition to the contribution of the class of '85 to the New Technology.

Thirtieth Anniversary of the Class

The thirtieth anniversary of the class of '85 at the Snow Inn, Harwichport, Mass., June 17–20, was perhaps the most satisfactory and intimate reunion the class has ever held. Those who were present at some time during the reunion were: Wilder, R. H. Pierce, Frazer, H. J. Williams, Morss, Fiske, Bartlett, Fuller, Steele, Schubmehl, Litchfield, Allen, Worthington, Plaisted, Mullins, Robertson, McKim, Spalding, Dewson, Nute, Martin, Hildreth.

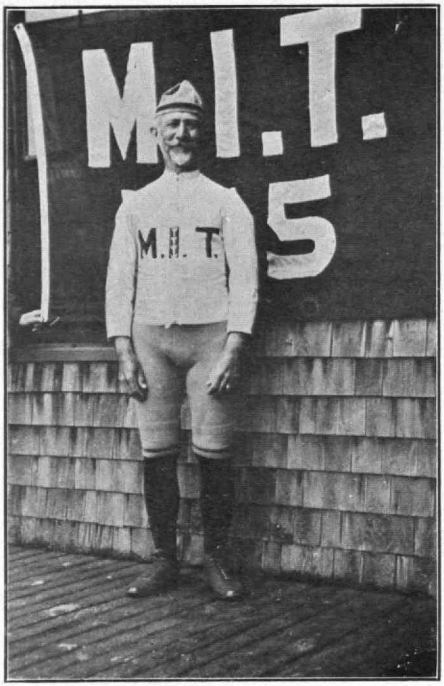
As the class was assembling in front of the Westminster for the start Nelson MacRae, son of Hugh MacRae, happened along and was introduced to the members. The party drew up at Frank Page's "farm," "Over Jordan," about one o'clock, somewhat damp from a flurry of rain but in high spirits. Frank had



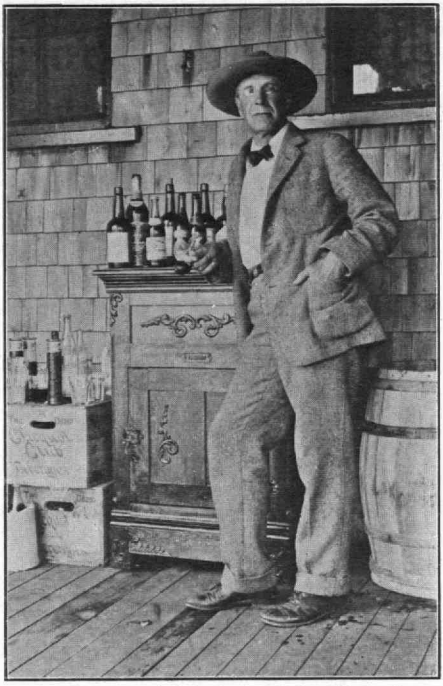
Just a Pretty Picture

Angel's-Eye View of Arid Regions

THIRTIETH ANNIVERSARY OF CLASS OF '85

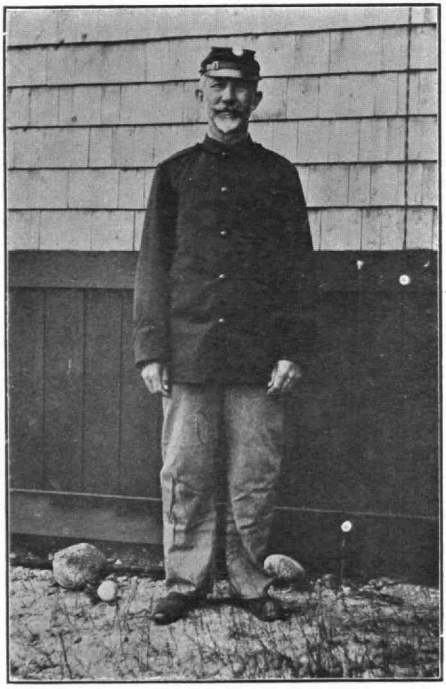


Georgie, Poured Into His Old Football Suit



Spirituous Advisor in His Abattoir

The President in 1884 Torchlight Parade Costume



Steele in His Drill Uniform

arranged for a genuine old-fashioned Cape Cod clambake under the supervision of our old friend, Captain Burgess, which was served under the trees in the grove adjacent to the house. The clams had a particularly familiar and delightful flavor, as they were dug on the beach of Tech Island just across the bay from Frank's residence. After spending a happy hour or two at Over Jordan the journey was continued to Harwichport where we arrived in time for dinner.

The '85 contingent was quartered in the annex of Snow Inn which comfortably took care of the whole crowd. In this annex was a large sitting room with an immense fireplace and,—carrying out the "safety first" idea, on a porch off the sitting room was a life saving device in the form of a spacious refrigerator—which didn't detract in any degree from the pleasure of our sojourn.

The class was seated at a long table at one end of the dining room and was served after the guests at the hotel had finished their dinner so that we had the dining room practically to ourselves. After dinner, as the chill of the evening came on, a blaze was started on the hearth and the class of '85, its grandeur and dignity, became the subject of the evening's discussion. It is a wonderful thing to be a member of this great class of ours, and it transpired during the evening that some of the members were so impressed with its high status that they were willing, *per se*, to make impossible sacrifices to sustain its reputation. It is rare that a class gets together in such a way as this, and the first evening at Harwichport will not soon be forgotten.

The members made a good record for early rising, the president, by virtue of his office, being the only one permitted to dally with narcotic Morpheus. President Steel is probably the only man of our time who has preserved his drill suit, football suit and torch-light parade costume. He had these with him at the reunion, and posed before the camera in each of them, as will be seen in the accompanying photographs. The "spirituous adviser" in remarking on the tenacity with which our leader clings to the things of early days, stated that he had a hunch that George still retained his first teeth! In the morning a golf "fearsome" was organized, the skill of the players calling the entire class contingent to act as gallery. On the return everybody went in swimming, the beach being only about 150 feet from the hotel and the temperature of the water being about 68°. At luncheon the iron cross for individual proficiency was awarded to Fiske, although others received honorable mention. An automobile trip occupied the afternoon, and a shore dinner was served in the evening. The lobsters and clams were natives of the port and were most delicious. It is hardly necessary to say that these evening dinners were somewhat prolonged because of the discussion of interesting matters, most of them more or less personal. The evening of the second day was warm and the crowd sat out on the veranda of the annex smoking and swapping yarns.

The next morning the golfers engaged in another game of "cow-pasture-pool," and in the afternoon broke up into small parties occupying themselves in various ways. The *pièce de résistance* of the class dinner Saturday was steak and onions. The onions were natives and added local color to the meal. A fire was built on the hearth again Saturday evening, and hearts and auction bridge occupied the attention of the members. No one retired before twelve, as the heart game didn't break up until then, and the commotion attending it was even greater than that of a young lady's whist party.

Sunday morning the members spent with each other talking over old times and experiences since the class left the Institute. During the period of our stay little parties arrived and others departed, so that the scene was constantly changing. Many who were expected to come were unable to be present on account of unforeseen circumstances, and some who came intending to spend the entire time were unable to do so for the same reason. After dinner on Sunday the remnants of the party bade goodbye to Host Thompson and left for their respective homes. A large part of the pleasure of the reunion was due to Mr. Thompson's complete arrangements for our comfort. It was the universal sentiment that the spirit of welcome that pervaded the place made it a very desirable objective point for class reunions and all expressed themselves as desirous of having informal meetings say every two years at Harwichport.

Edward Huidekoper Mumford

The sudden death of Ed. Mumford on April 18, at his home in Plainfield, N. J., was a great shock to the members of the class. Only a week previous to his death he had reëstablished the E. H. Mumford Company at Elizabeth, N. J., after having spent fifteen years elsewhere in the business, a consummation he had long desired. It was at Elizabeth, N. J., on the very location recently occupied by his company, that he joined Harris Tabor in the development of the first vibrator moulding machines in 1895.

Mumford was known all over the United States because of his contributions to the foundry industry through his many inventions in moulding machinery. Probably no one in the country was better posted or had done more for the industry than he had. Previous to moving to Elizabeth he had been vice-president and general manager of the Mumford Moulding Machine Company of Chicago, and only shortly before his death had the E. H. Mumford Company acquired ownership in the patents under which the Chicago company had been operating since 1909.

Mr. Mumford was born in Groton, Mass., September 20, 1862. He was a member of American Society of Mechanical Engineers, and the Engineers and Machinery clubs of New York. He leaves a widow, two sons and two daughters.

It is hoped that a more extended sketch of Mumford's life may be presented in a subsequent number of the Review.

Follies of '85 — Harwichport, Mass., June 17–20

Class of '85 at King Hooper House, Marblehead, June 5, guests of Billy Spalding

1886.

ARTHUR G. ROBBINS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

In a recent number of the *Nation* is a review of "Brunelleschi" by John Galen Howard, '86. The "Brunelleschi" is an artistic monologue of the Browningesque type (Brunelleschi loquitur) expanded to 1,837 lines, and adapted to three successive views or outlooks upon Florence, from the artist's chamber at dawn, from the hollow of the Duomo at noon, and from San Miniato at night.— In a recent number of the *Transcript* is an excellent appreciation of Charles H. Woodbury's series of decorative marine panels exhibited at the Guild of Boston Artists by "R. T. H," a Boston artist.

"Mr. Woodbury has an unlimited belief in the dignity of art as a really vital part of life. His powerful capacity for analysis has led him to search for something deeper than surface quality, or a simple playing with the delicate, chameleon-like changeableness of nature; and so he has found a larger and more fundamental truth, which may include, but does not spend itself, on charm alone. It is not the spirit of the 'nature morte,' which has so insinuated itself into almost every form of modern art, for which he looks. Charm may consist in the relation of ideas as well as tones."

The secretary regrets to announce the death of J. F. Bodwell. Mr. Bodwell left the Institute at the end of his second year to enter the employ of the Hallowell Granite Works of which company he was president at the time of his death. For three times he represented his native city in the Maine legislation.

1887.

E. G. THOMAS, *Sec.*, Kewanee, Ill.

The youngest member of '87, Ralph Vose, was, at graduation, less than twenty years old. We can all remember him as of slight build and naturally boyish in appearance, shy and retiring in disposition and interested only in his studies. To these he applied himself with all the persistence and energy of which he was capable with the result of a brilliant record of honors and credits, but with little addition to his frail physique. Thus he started out to his work in the world with a well-trained mind, but without the necessary strength to balance his mental energy. He was unquestionably a clear thinker along mathematical lines and accomplished successfully the duties which were put upon him in the various positions which he held, but without the physical strength to balance his mental energy. Successful as he was in accomplishing the duties which his employers placed upon him, his work, after a time, was interrupted at rapidly diminishing intervals by fits of sickness of a rheumatic character which culminated in an attack of the dreadful disease *arthritis deformans* so

serious that, for many years before his death in December last, practically every joint in his body was perfectly rigid, rendering him absolutely helpless. Fortunately the aid of our class fund, of Mr. Edison and others permitted him to be placed among those who gave him every care, so that he did not suffer from want, nor much physical pain, but the activity of his brain was not diminished and his complete dependence on others, his inability to carry on any of the work for which he had trained himself and his keen appreciation of the lingering and hopeless character of his illness, made his existence a dreary burden. In spite of this, Ralph kept all the sweetness of his disposition; he neither complained nor lost hope. He kept his interest in his friends and appreciated to the utmost that which was done for him.

He endeared himself to all those in whose care he was placed and his last attendant, Miss Saunders, wrote to the class a letter from which I quote:

In behalf of your former classmate, Ralph Vose, who passed into the Great Beyond on Christmas morning, I wish to thank you for all you did for him—personally and financially to bring pleasure and comforts into his life, from which so many things had been crowded out by his great affliction. Your loyalty and beneficence stood out clearly as the brightest part of his recent years; he felt whatever vicissitudes might arise, the class would always remain unchanged in the spirit of fellowship and goodwill.

Difficulties often came up, and feeling keenly his own inability to get about to give personal attention to such matters, his first thought invariably was, "Some of the boys will help me out of this." Usually, these things would adjust themselves and he would feel relieved in not being obliged to trouble any one. I assure you, gentlemen, this feeling of reliance in the class was a great source of comfort and strength to Mr. Vose in his helpless condition, even when he regretted most keenly the necessity of being a burden; and I am glad to tell you that your financial assistance did not leave the sting which charity so often carries. I feel sure this knowledge will be in itself a recompense. . . .

Mr. Vose's health seemed remarkably good except for the rheumatic attacks in his eye, until eight days before his death, when very powerful medicines were given to stay the progress of the disease in the eye, hoping to save the vision. These remedies apparently had some physiological reaction as his illness dated from that time.

As you know, his fortitude and patience were remarkable. Even when blindness, his one great fear, seemed insidiously creeping upon him, he tried to be hopeful; his struggle against despair exemplified this strength of character. Many, in moments calling for decisive action, do great deeds and are called heroes, who would lose courage and nerve in years of affliction and renunciation, while watching ambition, desire and love of work—not die—but pass beyond all hope of realization. I am glad the end came before the darkness, as that would have been harder than all the rest.

His unfailing courtesy, consideration, and great appreciation, made the duties involved in caring for him a pleasure rather than a service.

At our 1914 meeting he sent the following letter to the class which is well worthy of record here:

Although many years have passed since I attended any class meeting, I fear my name has been so much before your attention that you could willingly dispense with any further reference to my case. However, it has been suggested that the boys would like some direct word from me, and, having neglected to answer the repeated inquiries of the Committee on Class History, I will now try to relate some points of possible interest.

The usual sequence of things first calls for some account of one's business career, but on this the fewer words the better, for it is mostly a record of mistakes leading to disaster. The first great mistake, as now seen in retrospect, was in entering the manufacturing field immediately after graduating, instead of accepting a proffered opening at the Institute as teacher of physics and electricity. Not having sense enough to foresee or even imagine the wonderful growth which the electrical department was destined to make in the next few years, and the great opportunities which this would offer for congenial work and rapid advancement leading finally to retirement on a Carnegie pension, such a teaching job there appeared entirely too tame to my over ambitious mind, while great factories and power stations seemed to offer a more worthy field for my budding genius. Accordingly no time was lost in casting my lot with the interests of the "Wizard" Edison whose recently invented system of electric lighting had just been developed to commercial importance, serving first in his New York manufacturing plant and later at his experimental laboratory and other departments in Orange, N. J., up to the time of my final collapse, excepting for a few years' interruption from ill health and some brief engagements with other electrical concerns.

My professional work at various times covered a considerable variety of subjects but was mainly along the lines of laboratory and engineering work in connection with the manufacture of incandescent lamps and instruments for electrical testing. Both of these subjects were found of intensely absorbing interest, which led to another and even a much graver mistake, for ordinary working days seemed all too short and I sought to gain time by working nights and Sundays, after the example of my illustrious employer, little heeding and scarcely realizing that, without his iron constitution, this would undermine one's health almost as surely as the vices and dissipations which are more usually responsible for such untimely breakdowns. Even when ill health forced an intermission after only a few years of such work, I failed to heed this warning but, after recovery, tried to make up for lost time by redoubling my efforts, with a zeal that now seems to have been almost akin to madness. During my last few years of activity, however, I did realize the need of relaxation so far as to take up the study of natural history as a plausible excuse to my own mind for spending considerable time in roaming woods and fields to observe the wonderful works of nature. By chance my interest in this line became focussed particularly on such humble creatures as frogs, toads and salamanders, and finding that comparatively little was known or published about them, even by professional naturalists, I spent a continually increasing amount of time in studying the subject in libraries and museums, collecting, preserving and propagating specimens, observing and recording their characteristics, etc., until before I realized it, the whole thing became a burden instead of a recreation.

Perhaps you feel some curiosity as to what my condition now is. This is most easily described as being similar to the "ossified men" sometimes exhibited as freaks, all the joints being stiffened, which makes me entirely helpless. It commenced about twelve years ago like mere ordinary rheumatism and, in spite of the best medical treatment available, it gradually developed to what is technically known as *rheumatic arthritis* or *arthritis deformans*, meaning in the vernacular, "a disease which distorts and stiffens the joints." Although this condition is well recognized by the medical profession, they are all at sea as to either its cause or cure and generally agree that it is incurable. However, medical science is making such progress in recent years that I am not yet without hope of recovery, especially as there seems to be nothing the matter with me except the stiffness of the joints. Indeed, it seems almost ridiculous to think one can be in such good general health and yet so utterly helpless. I am dressed and sit up every day and, although all my joints are very sensitive as well as stiff, I do not ordinarily suffer much pain, thanks to the care and skill of my attendants in lifting and arranging me in my bed or chair, for when once settled it is impossible to move myself into any more comfortable position. The most discouraging effects have been the loss of sight in one eye and the stiffening of my jaw, which prevents mastication; but fortunately this does not cause such inconvenience as might be expected and they say I am even growing stouter. Perhaps you remember I was always in the light-weight class. This reminds me of being invited, once upon a time, to join a featherweight tug-of-war

team at the Institute, and when I told the captain I was no athlete and had scarcely the strength of a cat, he assured me he would not expect me to do much pulling but only wanted me as a dummy to make up the requisite number of men with the least possible addition to their total weight.

My head is still in working order, at least its wheels seem to be running as fast and normally as ever, but I suppose it would be more proper to allow others to pass judgment on this question. Regard for my impaired eyesight, and the need of having all reading matter adjusted for me, being unable to even turn the pages myself, prevents me from reading as much as I would like, but I manage to keep up with the most important news of current affairs and, of course, I am especially interested in the great progress of the Institute under Maclaurin's presidency and the plans for its magnificent new buildings already under way. What a delight it must be to have a hand in such a grand work or to be a student under such inspiring environments.

One very pleasant feature of my sojourn in Saxonville has been the acquaintance of several students attending the Institute and the local high school, some of whom have been particularly interested in mechanical and electrical work and have done some instrument making and repairing under my direction. This has not only afforded me congenial mental occupation but has encouraged me to attempt some little business in this line, in the hope that it may eventually bring in some revenue to make me in some measure self supporting. Although the financial result thus far has been practically *nil*, there seem to be some possibilities in this direction if I continue to be so fortunate in having volunteer assistance in the necessary mechanical and clerical work.

It has been my remarkable good fortune, wherever located, to have very faithful attendants or kind neighbors who have rendered unusual personal services at times when I was not within easy reach of my relatives or classmates. Some of these good Samaritans, indeed, have come at such opportune time and under such singular circumstances that it really seemed as though they had been directed to me by the hand of Providence. What this means to a person in my condition can be fully understood only by those who have had such experience; for it is not easy to realize how utterly dependent a physically helpless person is upon the loyalty of those in charge if they choose to take unfair advantage of him by neglect or refusal to convey his communications to superior officers or outside friends. Especially have I seen this to be the case with feeble-minded patients whose complaints, even though just, are easily discredited because of their mental condition.

Above all, to encourage me, has been the knowledge that I had the backing of the class of '87 and the personal assistance on many occasions of its individual members and I wish now to express to all of you, as I have before to those who visited me, my utmost appreciation and thanks for your financial aid, personal visits, kind letters and other tokens of remembrance, all of which have added so greatly to my comfort and pleasure. God bless the class of '87.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

The class dinner in April was enjoyed by twenty members who assembled at the Engineers Club, Boston.

Among the topics discussed was that of an illustrated class publication with reproduction of photographs of members. A committee consisting of Stone, Runkle, Dempsey, Bates, Baldwin and Snow was appointed to have charge of this matter. Members are again urged to send their photographs to the secretary.

B. R. T. Collins has recently returned from a business and pleasure trip to the Pacific coast.—A. H. Sawyer had charge of a party of the Appalachian Mountain Club in a visit to Waterville, N. H.—B. G. Buttolph delivered two lectures on "Fire Prevention

and Protection" at the Renssellaer Polytechnic Institute, Troy, N. Y.—Wm. G. Snow gave a series of lectures on "Heating and Ventilation" to the senior mechanicals at Tech.—Announcement was made on Tech night at the Pops that Charles A. Stone and Edwin S. Webster had offered to build a residence for President and Mrs. Maclaurin in Cambridge, near the new Tech buildings.—The *Paper Trade Journal* has this to say of Charles L. Holmes in its April 15 number:

Mr. Holmes some years ago was general manager of the Manufacturing Investment Company of Appleton, now the Interlake Pulp and Paper Company, and was well known in Wisconsin paper and pulp circles. From here he went to Waterbury, Conn., where he has resided since. The article boosts him for mayor, but in this unique manner:

"His student days he spent within the halls of Boston Tech, which stored the heavy warehouse on the summit of his neck with lore on the anatomy and hygiene of gears; and so he sold machinery for many thrifty years, until his love for brass and steel he found was growing cold, and that his sentiments inclined to hanker after gold.

"He then essayed to cultivate his happiness and health by acting as the guardian of other people's wealth. He takes the careful savings brought by A and B and C, and lends them out at interest to Messrs. D. and E. It seems a very simple way to get a barrel of pelf, but if you think it's easy, go and try it for yourself.

"The banker's wealth is not in coin, pressed neatly at the mint, nor is it in those lovely notes of Uncle Samuel's print. He gambles on performances of folks like me and you—the thing the banker owns is what we promise we will do; and competition's perilous; the ice is dreadful thin; the banker stands upon the shore and bets on who will win.

"When Charlie Holmes is weary of the scramble for the goods, he fraternizes with the birds among the vernal woods. He knows them by their feathers, by their manners and their voice, and when they wish to pick a mate he helps them make a choice; and if they fail to function with correct domestic zest, he thoughtfully ascends the tree and helps them build the nest.

"And since he is a citizen who's not exactly new, whose list of past performances is free to public view, he'd make a bully officer to fill the mayor's chair, and Waterbury may rejoice to see him sitting there; for he is never known to shirk at serving public ends, and might become a candidate to gratify his friends."

The Daily Mail, London, had the following interesting article on the *Sturtevant War Letters* by Charles H. Mower:

Since the beginning of the war, Paris has possessed a new publication and a new editor: the *Sturtevant War Letters* and Mr. Charles H. Mower. Unknown to many readers outside business circles, it is a pleasant duty to bring it to their notice. Its get-up is novel and attractive. Brown paper covers, bearing an artistically printed title and the gallant figure of a kneeling Territorial with his rifle to his shoulder, enclose some twenty-five quarto pages of text, apparently type-written but in reality printed by means of a Gammeter Multigraph. The binding—at once effective, neat and patriotic—is a narrow tricolour ribbon, passed through a couple of eyelet holes and tied in a bow. With so tasteful an introduction, the temptation to read the contents, consisting of letters from the members of the staff of a large engineering firm, is strong, and becomes stronger as one continues to peruse these vivid and virile contributions to the literature of the war.

A belief in the virtues of solidarity and charity, combined with a desire to contribute something to history, presided over the inception of the "Sturtevant War Letters." In his first editorial, Mr. Mower declared that his three objects were: "to enable our men *sous les drapeaux* to hear the experiences of their comrades of the staff, to create a fund from the subscriptions for assisting the families of our men in the service of the Allied powers, and to place on record what might be termed 'A Staff History of the War.'"

The periodical has a large and ever-increasing body of subscribers in the large cities of the Continent, the United Kingdom, and America. Produced at cost-price by the Paris branch of the Oliver Typewriter Company, and having nothing to pay to its excellent staff of war correspondents, with the exception of prizes for the best series of letters and the best single contribution, its profits are also always on the increase. Add to these the handsome donations of the Sturtevant Company and its friends, and it is evident that the fund for the families of these men of the engineering and erecting departments, the drawing office, the works, the commercial department, and the warehouse bids fair to assume the most satisfactory proportions.

Romance of War

Reading the current issue of the *Sturtevant War Letters* and the five back numbers, they strike me as replete with fine feeling, humanity, and the romance of war. The way in which the men in the fighting line have responded to the appeal of Mr. Mower is splendid. We read with emotion of the experiences of Corporal Fréchesser along the Yser; of those of Mr. Parish, of the Oliver Company; of the capture of four German spies by Mr. André Lebrasseur, of the Paris office of the Sturtevant Company; of German atrocities witnessed by erector Gustave Loridan, and of his capture and escape from Maubeuge; of how erector Legrand left fifteen kilos of his "embonpoint" on the French roads and was afterwards in fine form for the Battle of the Downs; of the shelling of the Crown Prince by Lieutenant Piard and his companions, their thirty-five days in contact with the enemy and their fighting in the woods of the Argonne; of Private K. McBryde's fine work with the London Scottish; of the Battle of the Falkland Islands, written and illustrated by Mr. David Mercer, a young officer in H. M. S. *Inflexible*; of the dilemma of Sergeant André St. Denis, who was the first man of the Sturtevant Company to be placed *hors de combat*, as to whether he was to become a sub-lieutenant, a sergeant, or remain a "dignitary in the kingdom of the moles"; and of a hundred and one other exciting or amusing incidents at various points of the enormous battle front.

Amidst all this romance of war there appears from time to time an entirely new feature—the romance of business. This is most strikingly exemplified by Mr. C. H. Mower's interesting account of how Mr. Lebrasseur and himself saw to the supplying of a No. 5 Cupola Blower for the Eiffel Tower. A blower, let me explain to the uninitiated, is a ventilating fan, and its use is indispensable in the electric generating chambers of wireless telegraphy stations. One of these cupola blowers had been ordered by the French Army Staff and had been forwarded from London via Folkestone to Boulogne. But Mr. Lebrasseur and Mr. Mower considered the order so important that they decided, in order to prevent any possible delay in delivery, to motor over to Boulogne and bring the fan back with them by car. The account of their journey, the adventures they had en route to Boulogne and back, and the unexpected sequel should be read by all.

Washing the Air

To make the study of the air a special and very lucrative branch of engineering seems strange, because we are dealing with a thing which is invisible. But air is none the less ponderable, and to invent mechanism to deal with it is really no more curious than the making of a pump to act on water. The ingenious apparatus manufactured by the Sturtevant Company might be classed under the three headings—ventilators, air-filters, and vacuum cleaners. The Savoy Hotel in London is supplied with an installation—situated on the roof—which removes all the bad air from the kitchens and supplies them with fresh. The filtering or washing of the air is a more complicated process, the details of which only the technologist would appreciate. Suffice it to say that this operation is absolutely essential in the case of the air supply to electric generators. Impure air produces friction and the dynamo is in danger of "burning out"—a very costly accident when the machine is a large one. The third category of air-pumps are used in large workshops for the removal of waste matter: dust from emery wheels, fluff and dirt from carding machines, sawdust from sawmills and carpenters' workshops—in short, refuse of any sort which, by its accumulation, would impede progress in a busy manufactory and prove injurious to the health of the workers.

One of these huge vacuum installations can be seen at the Saint-Ouen works of the Cosmos Company, where roll-top desks, index-files, turning bookcases and office furniture generally are made. Sawdust and pieces of wood which accumulate in these model workshops have only to be swept to the mouths of the cleaners to be instantly sucked up, carried off by pipes to the ceiling and thence outside, where they are automatically separated into two heaps.

But a visit to the Cosmos Works is interesting to the students of business and modern methods for another reason; the admirable work he can see done there by skilled French workmen. No nation can surpass them as workers in wood. The tops and sides of the desks, etc., made by these men are intended to last forever, and, formed as they are of a core of seasoned wood with a thick veneering on either side, will certainly never either crack or bend. It is a joy to the business man's eye, as well as to the artist's eye, to look on so good a piece of work as this, especially when its beauty is enhanced by a skilful French polisher. With such faultlessly-constructed desks, such smooth rolling tops, such well-fitting drawers as these, how greatly business is facilitated and rendered agreeable to the busy man of affairs!

HOT MEAL IN THE TRENCHES

A hot dish of curried fowl or a hot beef steak and kidney pudding are luxuries not usually found on the battlefield, but these and a host of other appetising dishes may now be enjoyed by the aid of a new invention just put upon the market by Messrs. Crosse and Blackwell. This unique and valuable adjunct to the soldier's kit is known as the "Joffrette" Heater, and costs but 1s. 6d. complete. Its construction is so simple and yet so effectual that a tin or bottle of preserved food can be thoroughly heated in a few minutes by simply lighting the cake of solidified alcohol supplied with the heater (additional cakes costing but 3d. each). It is without doubt one of the cheapest yet one of the greatest boons which can possibly be suggested for use in the trenches.

The heater cannot explode or get out of order, the flame is invisible and impervious to wind, and while it is of peculiar utility at the present time, it is equally serviceable for boating parties, picnics and household use where a hot meal or a cup of tea or coffee is quickly required.

1889.

WALTER H. KILHAM, *Sec.*, 9 Park Street, Boston, Mass.

Bulkeley has opened joint offices in the Equitable Building, 120 Broadway, New York, with Mr. S. C. Thomson, late consulting mining engineer to S. Neumann & Company, for the practice of the profession of consulting engineers.—G. F. Russell is president of the Merchants Trust Company in Lawrence, which has recently purchased the Pacific National Bank of that city. The bank now has a capital of $300,000 and carries over 50 per cent of the commercial deposits in the city, with a board of thirty-nine directors among whom are some of the strongest business and financial men of Lawrence.—Schuyler Hazard is president of the Board of Trustees of the village of Albion, N. Y., which is equivalent to the office of mayor in a New England city.—Pietsch has been laid up with typhoid fever and has recently entirely recovered.—Ayer's address is now 536 East Forty-First street, Chicago, Ill. He is superintendent of the Midland Chemical Company of that city.

The following is taken from the *New York World:*

"Edward W. Hyde, former president of the Bath (Me.) Iron Works, returning yesterday from a trip through the South, gave

to a reporter for the *World* the first public information regarding plans, now completed, for one of the largest shipbuilding plants in the United States, to be constructed at Mobile, Ala.

"At present Norfolk and Newport News, Va., represent the furthest south points for shipyards and the new project will not only be a boon for Alabama and the South, but the announcement should stir the citizens of Mobile who, as yet, know nothing of the proposition.

"The idea of the new plant, according to Mr. Hyde, will be to watch and care for the development of South American trade and that passing through the Panama Canal.

"The yard capacity of the plant will be for vessels up to 600 feet; it will have a drydock with a capacity of 800 feet and a marine railroad with a capacity of 500 feet, the fine repairing business at Mobile prompting the railroads. The new organization will involve an initial employment of 4,500 to 5,000 men, 50 per cent. of whom will be skilled workmen. The capitalization will probably be $4,000,000. Mr. Hyde will be general manager.

"The reason the organizers select this time for their project is that shipbuilding in this country, in comparison with foreign countries, has been handicapped by the different costs of labor, materials being on an almost equal basis. At the conclusion of the war, Mr. Hyde figures, foreign labor, having been depleted by a reduction of the male population, will be at a premium and the wages of foreign skilled labor will have to go up, thereby removing this handicap from American shipbuilding. As soon as the cost of labor is equalized ship construction here will start.

"There are not many large shipyards in this country compared with those in England, for instance, Mr. Hyde said. The main ones here are the Bath Iron Works in Maine, the Fore River yards at Quincy, Mass., some smaller yards in Boston, the New York Shipbuilding Company's plant at Camden, N. J., the Cramps' in Philadelphia, the Newport News Shipbuilding and Drydock Company, on the Atlantic Coast, and the Union Iron Works of San Francisco and Moran Brothers of Seattle on the Pacific Coast.

"Mr. Hyde, who is mainly responsible for organizing the new concern, is a graduate of Massachusetts Institute of Technology, was president of the Bath Iron Works when it sold out to the United States Shipbuilding Company, has served three times as mayor of Bath, has been president of the Bath First National Bank and has filled minor offices."

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

ARTHUR HENRY ADAMS

Lost on the *Lusitania* May 7, 1915. It was a great shock to us to learn of the death of our classmate in this terrible catastrophe.

For the past twenty years Arthur has lived abroad in Paris and London. For the last ten years he has been an officer and stockholder of the Adams Manufacturing Company, Ltd., a British corporation, engaged in the manufacture and sale of automobiles. He made periodical visits to this country, and last February he made a visit here and made arrangements to act as general European manager of the United States Rubber Company, Ltd., a British corporation. He brought his son with him, William McMillan Adams, a boy of nineteen, and it was the first visit of the boy to this country. We learned of Arthur's visit here in March, and wrote to him at the time, and had hoped to make arrangements to see him personally, but unfortunately were unable to do so. His London address was 5 Cumberland Terrace, Regent's Park, London, Eng., where Mrs. Adams and son now reside, and they both have the deepest sympathy of the class in their loss. Arthur will be well remembered by the boys of the class being at one time a leader of the Glee Club, and was one of the most popular men of Course II. He was married October 17, 1894. In 1896 he was located at Paris as superintendent of the Société de Matériel Téléphonique. In 1904 he became a director of the Sturtevant Engineering Company, London, Eng., and had been in London ever since.

While at the Seapuit Club recently, we ran across Cabot J. Morse, whom we had not seen since our first years at Tech. Morse had not changed much, except perhaps a little less hair on the top, and we found that he is the same old boy as when we knew each other over twenty-five years ago. His residence is at the Puritan, Boston, and his son is at the St. Paul School. Morse was in Germany with Mrs. Morse and his son when the war broke out and managed to get away early in September with the loss of only one trunk. His return passage from England was secured with much difficulty, and he himself was obliged to sleep on deck as no further cabin accommodations could be obtained. We trust that we shall have him with us at our June reunion now that we have got in touch with him again.—At the annual meeting of the National Association of Cotton Manufacturers at the Copley Plaza in Boston, April 29, 1915, L. C. Wason, president of the Aberthaw Construction Company read a paper on the "Uses For Concrete Construction by Cotton Manufacturers."—Early in May a protective committee headed by Charles Hayden was formed to guard the interests of the holders of the $75,000,000 capital stock of the Chicago, Rock Island and Pacific Railway Company. The committee consists of six members. For the present they do not intend to call for a deposit of stock, but merely wish to organize in order that the stockholders may feel that their best interests are being guarded and that should an occasion arise there will be in existence a body which can act more effectively than the stockholders could act as individuals.—Darragh deLancey,

on April 21, gave a talk in New Haven at the annual meeting of the American Society of Mechanical Engineers on "Special Forms of Power Presses."—On Thursday evening, April 8, George A. Packard gave a talk on "Butte, Montana; Above and Underground," with stereoptical illustrations at the Engineers Club in Boston.—Allen H. Rogers, accompanied by Mrs. Rogers, is investigating mining properties in Burmah. He left New York March 20, and expects to be gone about four months.—At the hearing of the B. & M. Railway Company April 2, W. Z. Ripley appeared for the subcommittee of the legislative committee on railroads. At his suggestion, it was inserted in the new draft that part of the premiums received by the Boston & Maine from the sale of stock may be capitalized and the stock issued therefor be used in promoting trades with the leased lines, but not to be placed on the market for sale. It is estimated that the amount which may be capitalized under this provision is about $2,500,000, according to Chairman Hobbs of the committee.—In March, Packard was on a mining investigating trip in the wilds of Canada over the frozen snows behind a dog team.

An informal lunch, Dutch treat, was held at the City Club in Boston, on March 15, at noon, in response to notices sent to fellows of the class in the vicinity of Boston. The following twelve men were present: Atwood, DeWolf, Ellis, Emerson, Gilmore, Goodwin, Martin, Mossman, Ripley, Sherman, Spaulding, Wason. A general social hour was passed, and it was voted that such a gathering would be held more frequently in future.

At the annual Alumni Night of the Tech Show at the Boston Opera House, April 19, the class of '90 was at the front, as we were the twenty-fifth year class. Four boxes were occupied in the first balcony, with our banner hanging over the railing in front of us. Between the acts, a long banner was run across the stage with the "Class of '90" on it, and a cheer was given for us, to which we responded. The following were present: Mr. and Mrs. D. deLancey, Mr. and Mrs. J. O. DeWolf, Mr. and Mrs. G. L. Gilmore, and Mrs. W. W. Reed, Mr. and Mrs. H. M. Goodwin, Mr. and Mrs. A. Loring, and Master Loring, Mr. and Mrs. G. A. Packard, Mr. and Mrs. H. P. Spaulding, and Miss Spaulding, Mr. L. C. Wason and two sons.

Calvin W. Rice, national secretary of the Mechanical Engineers, was in Atlanta March 3 to 6, and visited most of the southern technical schools, including Auburn, Georgia Tech, Clemson, and the University of Georgia. On Friday evening, March 5, he addressed the affiliated technical societies under the auspices of the mechanical section at the Piedmont Hotel at 8 o'clock. He spoke upon the increasing participation of the engineer in national affairs and also showed lantern slides of a trip a number of members took in 1913, at the invitation of the leading German engineering society, through the various large industries of that country. He

also addressed the student body of the Tech on Friday morning, March 5.

We regret to report the death of Mrs. Leonard C. Wason on May 25, 1915. Mrs. Wason had been an invalid for a number of years. In her death our classmate has the deepest sympathy of us all.

J. L. Batchelder attended the annual banquet of the Commercial Club on May 25. The afternoon was devoted to an outing at the Country Club.—The address of Rev. Henry Mesier, rector of St. Stephen's Parish, is 502 Woodland avenue, Netherwood Plainfield, N. J.—The latter part of May, Hayden, accompanied by some of his engineers, started on a western trip to be extended as far as Alaska, to be gone five or six weeks, visiting the Utah Copper, Butte & Superior, Alaska, and other properties in which Hayden, Stone & Company are interested. E. A. Clark, also of our class, was one of the party.

As the regular twenty-fifth anniversary reunion of our class had been postponed until 1916, there was no attempt made for a large gathering this year, but notices were sent out the latter part of May to call such members of the class together as were within the vicinity of Boston to meet at the City Club for dinner. Being the twenty-fifth year class, we were to act as escorts to Dr. Maclaurin and the senior class on Tech Night at the Pops, at Symphony Hall. As a result of this call, replies were received from thirty-four members, and twenty-one of the faithful appeared on the scene to add their share to the festivities and enhance the glory of '90. The following were present: Atwood, F. W., Baker, J. B., Batchelder, J. L., Borden, J. E., Brown, A. F., Burley, H. B., deLancey, D., DeWolf, J. O., Ellis, W., Gilmore, G. L., Goodwin, H. M., Loring, A., Morse, C. J., Richmond, K. C., Ripley, Prof. W. Z., Roots, Rev. W. H., Sherman, C. W., Simpson, Edmund T., Spaulding, H. P., Wason, L. C., White, Dr. F. W.

Mr. Gideon M. Mansfield of the class of '74 was with us as a guest, and we were also favored with the company of Baker's young nephew, Mr. J. Baker.

The call was for us to meet at four p. m., at the Boston City Club and dinner was served at six. The decorations of the tables were in charge of Spaulding. The tables were set in the form of a hollow square with blue and slate decorations down the centre of of the table, and a large bunch of red pinks in the centre. A good time was enjoyed, and one instance occurred that was not on the program. When the dinner was about half through, a surprise was sprung on your secretary when DeWolf rose and made a few remarks, and introduced Spaulding. Spaulding, after a few remarks to the fellows in general, turned to your secretary and presented him with a beautiful scarf pin with a large pearl in the centre, surrounded by sapphires, and set in platinum, and that had been designed by Spaulding. This was a mark of regard to your secretary

for his efforts for the part twenty-five years in keeping the class together and in touch with the doings of the Institute and the fellows in general. To say that your secretary was surprised would be but putting it mildly, and he could only reply with thanks, and trust that in the future years he will be able to carry out his duties, which are a pleasure in themselves, in a manner that will draw the class closer together than ever, and that at our reunion in 1916 he will find a larger percentage of the boys present to join in the festivities.

A rising toast was drunk to the memory of our late classmate Arthur H. Adams, who was lost on the ill-fated *Lusitania*. Regrets were expressed at the absence of our president, Charles Hayden, but business sometimes unfortunately interferes with all of us, but we shall have him with us in 1916.

The class then adjourned to Symphony Hall where a line was formed of two columns for escorting the senior class. Gilmore, with Dr. Maclaurin on his arm, led the procession, followed by Sherman and Atwood carrying our large class banner, and the rest of the class came in twos marching behind. All wore cardinal sleeve bands with the gray '90 on them, and also badges in blue and slate, our class colors, blue and slate trimmings around our necks, and cardinal and gray tall paper hats with '90 inscribed on either side.

As we marched into the hall amid the cheers of the rest of the alumni and the galleries, when we reached the front, a double line was formed with our banner across, under which the seniors marched to their tables, while our ladies in the gallery threw out streamers. A cheer was then given for the class of '15, and from then on, we all proceeded to enjoy the festivities prepared for the evening.

At the closing exercises when Dr. Maclaurin announced the recent gifts to the Institute and that two of our classmates, Charles Hayden and Pierre S. du Pont, had both contributed $75,000 apiece, the members present felt that our thanks were due to our generous classmates, and regretted most exceedingly that neither of them could have been with us.

The front row of the balcony to the right was occupied by our wives and young people, and we felt that '90 had helped to do its share at the annual Tech Night at the Pops.

1891.

H. C. Forbes, *Sec.*, 88 Broad Street, Boston, Mass.
Fred. A. Wilson, *Asst. Sec.*, Nahant, Mass.

The class dinner at Hotel Thorndike on June 4 was unusually enjoyable. Those present were: Vaillant, Young, Jerry Campbell, Wilson, Bassett, Dart, F. C. Holmes, Bowen, Capen, Forbes, Alley, Garrison, Howard, Wason, Kimball and Bunker. Those

who stayed away missed something—as men get older (are we old?) they appreciate old friendships more, and the boys all have interesting things to say.

We talked war and much on war material. Many of the boys are making it. Bunker could not say if the "war babies" would increase the demand for "Mellen's." We hope so. Jerry Campbell advertised the Campbell clan by appearing in a full dress, Scotch kilts and all. There were many inquiries for absentees and we bewailed the failure of the managers of *Ziegfried* at Cambridge to recognize our dinner and avoid conflict with it. Oh, H. G. Bradlee and others!—Howard has come back to Boston, after many years trying to believe another place was as good, and now owns and runs the old firm of Ingalls and Kendricksen, heating and ventilating engineers and contractors. Long life to him!—An election, necessary evil, was held and H. H. Young was chosen president, while H. C. Forbes remains secretary and Stephen Bowen continues to foot the bills with some slight assistance. Garrison is hard at work on the twenty-fifth anniversary book of the class. Advertise now!

The office of assistant secretary, general helper to the secretary, and man who can be blamed for all shortcomings, was scheduled to be loaded onto Arthur Alley who sidestepped cleverly and involved Fred A. Wilson in the job.—Lin. Damon was in California. (What, in these hard times!)—Fred E. Norton was as near as Worcester and didn't come. The new steam electric generator originated and patented jointly by him and Wilson is still only the best guess yet—no time for these merely useful things!—Howard has a beard (did we know him?).—Young brought his smile, and promises to use it in his new office of president.—Dart, by the way, is treasurer of a girls' school enterprise at Providence. Is this true, Billy?

The secretary records with regret the death of Joshua Hale. Mr. Hale will be remembered by many of the class as being with us during our first year. We print the following account as given by the press:

Joshua Hale of Newburyport, an electrical engineer with an office at 35 Congress street, Boston, was killed at the Newburyport station yesterday morning by an automobile owned by Frederick S. Moseley, a member of the banking firm of F. S. Moseley & Co., 50 Congress street, Boston.

John O. Newhall, the chauffeur, had just left Mr. and Mrs. Moseley at the station for the 10:09 train, and was backing away when Mr. Hale ran behind the car. The rear fender knocked him down, and a wheel went over his head, killing him instantly.

Joshua Hale was born in Boston in May, 1869, the son of Cyrus King Hale. He studied at Technology, and entered Harvard College with the class of '92. While in college, for a short period he held the Harvard record for the broad jump, and he excelled also as a sprinter.

In October, 1903, Mr. Hale married Florence Gould of Moline, Ill., and she, his mother and a younger brother, Josiah L. Hale, all of Newburyport, survive. He had been a member of the Newburyport school board, and was a deacon in the Bellevue Congregational Church. He had membership also in the Boston Athletic Association; the National Arts Club, New York; the Dalton Club, Newburyport; the Moline Club, Moline, Ill., and the American Yacht Club.

1892.

W. A. JOHNSTON, *Sec.*, Mass. Inst. of Tech., Boston, Mass.
C. H. CHASE, *Asst. Sec.*, Tufts College, Mass.

The following clipping was taken from the *Electric Railway Journal* of May 15, 1915:

Charles F. Wallace will reside in Dallas, Tex., as head of the Stone & Webster interests there. He entered the Massachusetts Institute of Technology in 1888 to prepare himself for the profession of electrical engineer. In 1892, immediately after graduation, he entered the employ of Stone & Webster. For the last twenty-three years he has been engaged in designing, building and managing electric light plants, water-powers and street railways. He has had broad supervision over the affairs of the public utilities in Savannah and Columbus, Ga., Tampa, Pensacola and Jacksonville, Fla., and Baton Rouge, La., and several of the larger water-power developments under the management of Stone & Webster.

A. G. Pierce was in Boston June 8, on a business trip and attended the Pop Concert at Symphony Hall in the evening.

1893.

FREDERIC H. FAY, *Sec.*, 308 Boylston Street, Boston, Mass.
GEORGE B. GLIDDEN, *Asst. Sec.*, 551 Tremont Street, Boston, Mass.

The annual meeting and dinner of the class was held at the Engineers Club in Boston on Commencement Day, June 8. Officers for the ensuing year were reëlected as follows: President, Harry M. Latham; first vice-president, Charles M. Spofford; second vice-president, Albert L. Kendall; secretary, Frederic H. Fay; assistant secretary, George B. Glidden. The principal feature of the dinner was the talk given by S. C. Keith, Jr., on his experiences on a recent trip to China and Japan. While on his way home from China in April, Keith spent a delightful day with our classmate, Heiichiro Maki, at his home at Numadzu, Rokudmatsu, Japan, where he met Mrs. Maki, a daughter of Count Okuma, premier of Japan, and Miss Shidzuko Maki, their seventeen-year-old daughter. At eight, the meeting adjourned to the Tech Night Pop Concert which, as for some years past, was conducted by a committee under the chairmanship of George Glidden, and this year's concert was generally credited with being better than any of its predecessors. The members present at the dinner were: A. F. Bemis, E. B. Carney, C. N. Cook, H. N. Dawes, F. N. Dillon, A. B. Edwards, F. H. Fay, S. C. Keith, Jr., H. M. Latham, W. B. Page, J. H. Reed, C. M. Spofford, S. P. Waldron, and E. L. Wingate; while at the Pop Concert there were also present S. A. Breed, S. N. Braman, G. B. Glidden, and H. C. Wilson.

Charles M. Spofford presented a paper before the Western Society of Engineers at Chicago on May 10, the subject being "The Apportionment of the Cost of Bridges between Street Railways and Cities." The following evening he presented another paper before the Engineers Society of Johnstown, Pa. Spofford

has recently served as the representative of the Institute upon the special commission of the city of Cambridge, which made an investigation and a report upon the local real estate assessment situation in that city. As a result of the report of this commission the city has undertaken to revise its system of assessments, and has appointed a recent civil engineering graduate of the Institute as engineer of the commission.—Joseph W. Ellms, M. Am. Soc. C. E., consulting sanitary engineer; George P. Smith, formerly chief engineer of the Cleveland, Cincinnati, Chicago & St. Louis Railway, and Clifford N. Miller, Assoc. M. Am. Soc. C. E., have organized the firm of Smith, Ellms & Miller, consulting engineers, with offices at 2807 Union Central Building, Cincinnati, Ohio.—Frederic H. Fay recently gave a paper on "Protection of Metal Structures" before the Engineers Society of Western Pennsylvania at Pittsburgh.—Miss Vera Emma Stiebel, daughter of Mr. and Mrs. H. H. Stiebel of Brookline, Mass., was married to Charles Frederick Hopewell on April 17. A reception at the Hotel Somerset, Boston, followed the wedding ceremony. Mrs. Hopewell is a Radcliffe graduate of the class of 1907.—Herbert L. Wardner of the firm of Leeming and Wardner, architects, of New York City, is the resident representative of that firm at their new office which has recently been opened in the Fallkill Building, Poughkeepsie, N. Y., in which latter city Wardner has taken up his permanent residence. —Harry Milton Latham, president of the class, was married on June 19 to Miss Agnes Gleason Vaughan, daughter of Mr. and Mrs. Ernest H. Vaughan of Worcester, Mass. The ceremony was performed at the First Universalist Church.—The Hagar Portland Cement Company was organized in June with Edward M. Hagar as president. The general offices of the company are located at 208 South La Salle Street, Chicago.

1894.

S. C. Prescott, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The following clipping from the Philadelphia press will be of interest to many '94 men who remember "Doc" Bigelow in the days when he was at Tech:

Announcement is made of the engagement of Miss Mary Beatrice Lowell of Boston to Mr. Frederick Southgate Bigelow of Haverford. Miss Lowell is a daughter of Mrs. Charles Lowell. Her mother was a Miss Hardcastle of Gloucestershire, England, and her father, a son of Rev. Dr. R. T. S. Lowell of Schenectady, N. Y., was a nephew of James Russell Lowell and a cousin of A. Lawrence Lowell, president of Harvard University. Miss Lowell is a cousin of Mr. George Putnam of Boston, whose engagement to Miss Katharine Harte, daughter of Dr. and Mrs. Richard Harte of 1503 Spruce street., was announced April 10.

Mr. Bigelow is a son of Dr. and Mrs. George F. Bigelow of Boston. His father was a widely known physician, and the family, which is of English origin, has lived in Massachusetts since the middle of the seventeenth century. On his mother's side, Mr. Bigelow is connected with the Setons, Ogdens and Curzons. He is a member of the class of '94, Massachusetts Institute of Technology. He is an associate editor of the *Saturday Evening Post.*

The work on the round court house in New York is being carried out in accordance with the plans made by Guy Lowell. It is taking a large amount of Mr. Lowell's time so that he lives in New York quite as much as in Boston. This is one of the most monumental pieces of architecture which has been undertaken for many years and its completion will probably require a number of years.—C. G. Abbott is scheduled to receive very distinguished scientific honors of which announcement will be made in the fall.—Price comes over from New York occasionally for the meetings of the Alumni Council of which he is a member. He always has something interesting to say in regard to his work as vice-president and laboratory director of the United States Rubber Company.—S. A. Breed will spend the summer as usual in connection with the administration of his boys' camp which has become a very successful institution.—At the meeting of the class on the occasion of the Tech Night at the Pops, we had at dinner the following nine members: Claflin, Piper, Parker, Tufts, Warren, Taylor, Moore, Breed and Prescott. At the Pops we found Bovey who had not arrived in town in time to attend the dinner. Also Mrs. de Lancey who was attending with the ladies of the class of '90. Mrs. de Lancey seems to be quite as loyal as ever to '94, although her interests in the class of '90 are undoubtedly very great. Of the former '94 men, W. D. Parker was also present at Pops. The occasion was one of great pleasure.

With the approach of the large reunion for next year it is anticipated that a greater attendance of '94 men will be possible and that it would be a fitting time to have a more imposing type of class reunion. Certain members are already suggesting or working on plans for this. For example, Sayward has something up his sleeve, and others are sure to have suggestions, all of which will be gladly received.

C. G. Whitin is still running the New Bedford, Nantucket & Martha's Vineyard steamboat line. He expressed great regret at not being able to attend the meeting. His home address is 42 Rotch street, New Bedford.—A very pleasant letter from A. G. Robb expresses his regret and brings us the information that the whole plant of the International Engineering Works, Ltd., of which he is an official, is now turned over to the manufacture of shrapnel shell. At present they are turning out about 200 per day and expect to increase the capacity to 1,000 a day within a very short time. Robb says that the work is very interesting and presents a number of detail problems, especially problems connected with the shrinking and heat treatment, etc. We shall certainly look forward to seeing Robb next year.—C. M. Lawrence is president of an organization of managers which held a meeting on the same night as our dinner and so prevented his presence. He is factory manager of the Thomas G. Plant Company.—D. W. Richards is signal engineer of the Norfolk & Western Railway Company and

has headquarters at Roanoke, Va.—The secretary would express appreciation of the cordial letters received from the following members of the class: G. R. Beardsell, F. B. McKibben, C. D. Pollock, T. G. Richards, and W. F. Spaulding. He also expresses appreciation at the receipts for funds for the running expenses of the class.

1895.

WILLIAM H. WINKLEY, *Sec.*, 44 Kilby Street, Boston, Mass.

The annual meeting and dinner was held at the Boston City Club at 6 p. m., June 8, with the following members present: G. Clapp, W. C. Brackett, J. L. Newell, C. H. Parker, W. D. Parker, G. A. Cutter, G. A. Rockwell, H. C. Whorf, J. W. Cooke, W. S. Williams, R. J. Williams, F. A. Bourne, R. R. Lawrence, F. L. Richards, G. W. Hayden, W. H. Winkley.

It was decided to postpone the celebration of the twentieth reunion until next year, when the class becomes of age, and the celebration of the opening of the new buildings will bring a larger attendance of men from distant points. A committee was appointed, composed of George W. Hayden, F. A. Bourne, C. H. Parker, E. H. Clapp, J. W. Cooke, R. J. Williams and W. D. Parker, to take charge of the arrangements. After the meeting the class adjourned to Tech Night at the Pops where they were joined by several members who were unable to attend the dinner.

Gerard Swope has recently been elected to the board of directors of the Western Electric Company.

Douglas H. Thomas, Jr., '95, of the firm of Parker, Thomas and Rice, architects, Baltimore, Md., was killed instantly in an automobile accident June 11. Mr. Thomas had been in Baltimore visiting friends and left for his home in the evening. His body was found under the machine in the morning with a fracture at the base of the skull. At the point where the accident occurred there is a private road leading out from the main road, and it was evident from the track of the car that he had, for an instant, mistaken this road for the main road, and seeing his mistake had attempted to get back to the main road again.

Mr. Thomas was born in Baltimore in March, 1872. He was educated in private schools, and at sixteen he went to Switzerland where he studied for a year. He then entered the Johns Hopkins University, and after being graduated, came to the Institute. After leaving Technology he went to Europe for further study in France and Greece. Upon his return to this country he formed a partnership with J. Harleston Parker, '95, and later on with Wallace Rice. The firm of Parker, Thomas & Rice soon became known as one of the foremost among the architects of the country.

The Baltimore *Sun*, in speaking of Mr. Thomas, said that he personally did much of the architectural work in connection with

the construction of the new Homewood buildings of the Johns Hopkins University at Baltimore.

Mr. R. Brent Keyser, president of the board of trustees of the university, expressed himself as follows:

The death of Douglas H. Thomas, Jr., is a very great loss to Johns Hopkins University. Himself an alumnus of the institution, his firm won the first competition for the general development of Homewood in 1906, and since then he has given ungrudgingly of his talents and energy to the working out of the scheme, having made it a labor of love rather than a merely professional obligation. He designed and built the Academic, or Gilman Building, and its quiet dignity and effectiveness is a monument to his taste and appreciation of what a university building should be.

When he had completed the power-house plan and the bids were in he saw a way to improve its appearance, reduce the cost and thus reduce his own commission. He had thoroughly studied the situation, both from an artistic and a practical standpoint, and his thorough knowledge, his trained taste and his unselfish devotion were always at the service of the university. His death is not only an official loss, but a personal one to all of us.

Mr. Thomas was president of the Maryland Institute of Architects and a member of the Maryland, Baltimore and Merchants' Clubs and the Elkridge Kennels. He took a great deal of interest in society and was very popular.

Mr. Thomas is survived by four young daughters, Misses Catherine, Rosamond, Alice and Elizabeth Thomas, the eldest of whom is about 14 years old; by his parents, Douglas H. Thomas and Alice Whitridge Thomas, and by a brother, J. Hanson Thomas, and a sister, Miss Alice Lee Thomas.

The following address changes have been received:

Clarence Goldsmith, 502 Garrison Hall, Boston, Mass.—A. L. Canfield, 115 Broadway, N. Y.—E. H. Huxley, 1790 Broadway, N. Y.

1896.

CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass. J. ARNOLD ROCKWELL, *Asst. Sec.*, 24 Garden Street, Cambridge, Mass.

The following men turned up at the Pop Concert on Tuesday evening, June 8: H. D. Jackson, E. H. Robinson, Dr. J. W. Rockwell, Frank Guptill, Sammy Wise, H. W. Hayward, Joe Knight, Harry Brown, Henry Cummings, C. E. Locke.

Plans for the twentieth-year reunion were talked over a little bit and Dr. Rockwell was appointed to investigate regarding the best location.

Guptill reported that he had severed his connection with Stone & Webster and was doing some business in a private way.

Robinson preferred to spend most of his time with the class of '97 this year. Harry Brown was feeling happy over the fact that at the time of the recent freeze on Cape Cod his cranberry beds were all eight inches under water and were, therefore, perfectly safe.

The *Indianapolis Star* of Saturday, May 29, contains an excellent cut of William J. Wall, and an account of his work as vice-president and chief engineer of the National Motor Vehicle Company, as follows:

Wall probably has the distinction of being at the head of one automobile engineering department longer than any motor car designer. Wall has designed every National in the fifteen years' existence of that company. Beginning in 1900, when the National built electrics, and continuing through to 1915 without a break, he has produced successful cars for the National Company. The large number of mechanical successes are directly credited to him. He designed the first stock six-cylinder cars in America, as the National Company marketed a six-cylinder car of Wall's design in 1905. This was the first six-cylinder car offered as a "stock in trade" by American manufacturers.

In 1905 Mr. Wall also built the National cars that established the first twenty-four-hour record. Following this he built the famous National 40, which won world-wide recognition on account of their many stock car victories. This car—National 40—now holds the title of world's stock car champion on account of still retaining stock car records for a straightaway mile, and also in long-distance road racing.

In 1909 the National experimental department, under the direction of Mr. Wall, built experimental eight-cylinder motors, but the National Company never marketed a car of that type. In 1913 Mr. Wall designed the first installment of the present National Newport sixes. His crowning achievement is the National twelve-cylinder car, which is being marketed this year.

Wall directs one of the most complete experimental departments in the automobile industry. This department is headed by Johnny Aitken, veteran race driver. Wall and Aitken make frequent visits to Europe and enjoy friendly relations with most of the prominent European builders. This friendship is evidenced by the fact that practically all the foreign builders make their headquarters at the National factory at the time of the Speedway race.

Marshall Leighton called on the secretary on May 24, it being his first call since 1896. Leighton severed his connection with the United States Geological Survey, Hydrographic Department, in May, 1913, after many years' successful work, his successor being N. C. Grover of the class of '96. Leighton is now consulting engineer along hydroelectric lines, and is located in the MacLachlan Building, Washington, D. C. He looks prosperous, and among other things he serves as consulting engineer for the following: J. G. White Engineering Corporation, on Florida Everglades Engineering Commission; Green River Power Company; Utah & Nevada California Power Company; Priest Rapids Landowners Association in Washington State; also Utah Power and Light Company. He reports that he has a great deal of expert witness work in Court cases. One girl, eighteen years of age, represents his only descendant. Marshall reports that he sees Pierce, Whitten and Perley occasionally in Washington.—On May 21, Paul W. Litchfield called on the secretary and made his annual visit to Technology to secure good graduates for service in the Goodyear Rubber Company's works at Akron, Ohio, where Litchfield is superintendent.—Harrison S. Taft has been getting his name in the paper and also his picture. The following is taken from the *Pacific Builder and Engineer* of Seattle:

Harrison S. Taft, contract engineer, Central Building, Seattle, is one of the leading cement and concrete authorities in the Greater Northwest. He began his career in Providence, R. I., where he received his early education, including the degree of bachelor of philosophy from Brown University, and later received his science degree from the Massachusetts Institute of Technology.

Shortly after graduation from the Institute he entered the employ of the United States naval constructor's office at Newport News. From 1898 to 1902 he was engaged upon steel construction with the American Shipbuilding Company. For the next two years he was in charge of steel erection in New York City. From 1904 to 1907 he was concrete and construction engineer in charge of work for the contractors on Pennsylvania tunnels under North River and New York City, Grand Central yards improvements, and the concrete locks of Champlain canal. As contractor's superintendent he had charge during 1907 to 1910 of state road and mill construction work in New York state.

In April of 1910 Mr. Taft came to the Greater Northwest to locate and engage independently in contracting-engineering work. He located first in the Crary Building, but for the past four years has had his office in the Central Building, Seattle. He has always been interested in transportation and nautical affairs and has in past years devoted considerable time to such questions as affecting eastern cities. Since coming to Seattle he has taken a deep interest in the development of the port and has made quite a study of some of its conditions and possibilities as compared to ports on the Atlantic Coast.

Mr. Taft's extensive knowledge of concrete subjects is well illustrated by the number of scientific articles which he has contributed to the proceedings of technical societies and the list of inventions for which he is patentee. His articles include analyses of concrete work, studies of concrete forms, dock construction, concrete caissons, and use of concrete as compared with other materials. These articles have appeared in the transactions of the American Society of Civil Engineers, American Concrete Institute, Professional Memoirs. He has also prepared an article upon the subject of "Uses of Wood and Concrete in Structures Exposed to Sea Water Action; Special Reference to Dock Work," for the International Engineers Congress to be held this fall in San Francisco.

Patents of which Mr. Taft is the sole or associated patentee cover apparatus for directing and recording operation of hydraulic dredges, hollow-expanded heads for concrete construction with reference to dock and viaduct work, cellular type of construction for foundation work, bridge piers, Tremie tube operations, etc. Several of these patents are covered in France, England, and Germany, as well as in the United States.

Mr. Taft is a member of the Pacific Northwest Society of Engineers, and the Alpha Delta Phi Fraternity.

—Julian E. Woodwell announces that he has removed his office to 8 West 40th street, New York, where he will continue the general practice of consulting engineering.—Joseph Harrington also has made a change. The following from the *Western Trade Journal* of May 11 tells of it as follows:

Joseph Harrington has taken over the interest of his partner, T. A. Peebles, in the firm of Harrington & Peebles and has moved from the firm's old quarters in the Consumers' Building, 220 South State street, Chicago, to suite 779 Continental and Commercial Bank Building.

Mr. Harrington has gained great prominence in a field in which there are not many engineers, he being a consulting combustion engineer, specializing in all matters pertaining to the boiler room, such as equipment, organization, efficiency, designing, operating and economy.

Two years ago Mr. Harrington formed a partnership with Mr. Peebles, under the firm name of Harrington & Peebles, when they took the quarters in the Consumers' Building above mentioned. On the first of the present month, May 1, this partnership was dissolved, Mr. Peebles becoming manager of the stoker department of the Westinghouse Machine Company of Pittsburgh, Pa.

Mr. Harrington has a large personal following and is considered one of the most efficient men in his line in the United States. He was formerly chief engineer of the Green Engineering Company of this city. Since being in business for himself he has gained prominence throughout the country and his services are sought by many large concerns, particularly those having or intending to have big power plants.

—A. F. Lindenlaub has joined the colors and is fighting for the fatherland in Germany.—The Boston *Transcript* of June 11, 1915, contains an account of the accidental death of D. H. Thomas, Jr. His automobile overturned at Baltimore, while he was on his way to his country home at Ruxton, a suburb of Baltimore. Thomas took a course in architecture as a special student, but was affiliated more or less with '96 men. He studied in Europe afterwards and later secured a partnership with Messrs. Parker & Rice, maintaining architectural offices in Boston and Baltimore. —Ninety-six will be interested to hear of one of the most rapid manufacturing growths on record, that of L. M. Cotton, Inc., of 922 Commonwealth avenue, who started as a jobber three months ago and now has the largest automobile body factory in the United States.

Mr. Cotton began business in this line as a jobber of bodies. He had the work done for him by concerns all over the country, but had considerable difficulty with making prompt deliveries and in the quality of workmanship. So he started a factory of his own at Amesbury. Its success is shown by the fact that over 100 men are employed there now and the plant is running at full time to keep up with a flow of orders that bids fair to continue for many months. The idea of the new business is to provide a variety of bodies for an automobile to vary with the use of the car. Now a business man can have his touring car for pleasure purposes on Sunday while week days he may have a roadster body on it. Or a farmer may use his machine with a truck body on it during the day and place any kind of a body he pleases on it out of working hours. In fact, there is no limit to the possibilities of appearance under this plan. By making his own cars, Mr. Cotton is able to sell better workmanship at practically the same price he used to pay wholesale at the body factories himself. He built up his business on prompt deliveries and good service. He terms himself "A specialty man in a specialty business."

1897.

JOHN A. COLLINS, JR., *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

Professor Breed, associate professor at the Institute, has been recently elected president of the New England Railroad Club. Since graduating he has been very intimately connected with railroad work, particularly as concerns the abolition of grade crossings and the elevation of tracks. This work he has carried on in Lynn, Worcester, Taunton, and Chicago.—A daughter was born to Mr. and Mrs. Hugh Moore at Berlin, N. H., on February 23. And while writing this note the secretary recalls when he last saw Hugh, but a short time ago, and somewhat unexpectedly. Being one of an auto party motoring through the White Mountains over the Memorial Day week end in passing along the wildest part

of the Pinkham Notch road, at the base of the Northern Peaks, he came suddenly upon a little family group enjoying life by the roadside. As our car sped by like a flash, the face of Hugh Moore beamed forth on the secretary's vision. He let out a whoop of recognition which nearly caused our beloved Moore to fall into the mountain stream from which he was enticing the speckled trout. And even now perhaps he does not know who it was who thus aroused him from his Waltonian reveries.

The class dinner was held at the City Club at 6.30. Those present were: Thomas Atwood, John Alden, Charles Currier, C. W. Bradlee, C. B. Breed, H. F. Sawtelle, Proctor Dougherty, Harry Worcester, F. E. Mansfield and John Carty. The secretary was unable to attend owing to the illness of his son, who was threatened with appendicitis. After an enjoyable dinner the class adjourned to the Pop concert, where they were joined by H. D. Jackson, Otto Pike, Walter Humphreys, and Lionel Norman.

The chairman of the executive committee received a letter from Arthur Hopkins expressing his inability to be present at the Pops. He urges the importance of soon preparing for our twentieth reunion, so that it can be as great a success as the one we had at Osterville.—Charles W. Bradlee has changed his place of business from 85 Broad street to 54 Canal.—Walter Humphreys and his family are at Richmond, on the Kennebec for the summer.

1898.

A. A. Blanchard, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Fourteen members of the class met together at the City Club before the Tech Alumni Night at the Pops, viz.: Barker, Blanchard, Curtis, Dawes, Seth Humphrey, F. M. Kendall, Peavey, Perley, Russ, Rutherford, C. H. Smith, Thompson, Treat and Wadsworth. George Anthony joined us later at the Pops, it being his first public appearance in Boston for seventeen years.

Mark Taylor writes:

> At the same old job, getting the United States Army ready to lick the world.

Volume II of H. W. Thayer's "Structural Design" is out and has already been adopted in eight institutions.—Ed Chapin writes that he is still very busy on the new chemical and dyestuff problems brought forward by the war and he encloses a reprint of a paper which he read at the Copley Plaza before the National Association of Cotton Manufacturers. Bill Perley ran off with the reprint because he wanted it in his business but the secretary had already read enough to be able to report that it was very interesting as well as important. Chapin clearly points out that women as well as men indulged in colored garments before the coal tar dye industry was thought of and he shows ample ways of still indulging our passion for colors without the use of coal tar

dyes. His paper has been reprinted in several of the daily papers and in the textile press.—Milan V. Ayres writes:

Busy inventorying the prosperity of the railroads.

—J. B. Dixon says that considering the hard times, no news is good news.—Arthur Franklin is pursuing a watchful waiting policy, hoping to again get some German chemicals if there are any Germans left to make them.—Alvan Davis suggests the Crawford House, or perhaps the Ravine House at Randolph in the White Mountains, as a place for our twentieth reunion and the time to be just after the commencement festivities. Coombs writes:

Nothing doing in business. The war has put the Kibosh on all building operations. Hope to show my dainty sylph-like figure again in good old bean town within another year, only a visit, then, for the West looks mighty good to me.

Harrington Barker married Emma B. Jones on November 18, 1914.—Willard B. Nelson is lecturing on physics to the freshmen of Long Island College Hospital.—Dave Fenner is also looking forward to the vincennial reunion.—George E. Mathews started his career as a farmer about a year ago and finds that by careful attention to business in the city he can nearly overcome the deficit.—Jacoby is trying to relieve the shortage in aniline colors by extending the use of natural dyestuffs (Logwood, fustic, etc.).—Strickland writes to watch for the "Peerless Eight" next year. Meanwhile he is turning out twenty 4-ton trucks per day for the Allies.—E. M. Taylor is general sales manager of Fiske & Company, Inc., Boston and New York.—R. R. Rumery has recently been retained by the Barge Canal Commission of New York state as consulting engineer for the valuation of water powers destroyed by the construction of the canal.—A. A. Packard is now general superintendent of the Foster Armstrong Company, Division of American Piano Company. He has been efficiency engineer of the latter for the preceding two years.—W. A. Robinson says he is training to take the heavyweight cup from Weimer and Treat at the next reunion.—Horace Smith reveals the secret that he is finding some gray hairs in his head. Come around to the next meeting of the crowd, Horace, and be comforted, for most of us are happy even to have gray ones.—Allyn announces that he has formed a partnership with Robert C. Mitchell for the practicing of law and the soliciting of patents, trade marks, and copyrights, under the firm name of Mitchell & Allyn, 41 Park Row, New York.—L. D. Peavey has been kept busy lecturing this spring and also last winter. He has spoken before the Scranton Board of Trade, the Portland Credit Men's Association, the Rochester Rotary Club, and recently before the Norwood Board of Trade.—Babson was appointed, by Boston business men, chairman of the entertainment committee to welcome the South American delegates to Boston in June. Peavey contributes the following in regard to the doings of our illustrious classmate:

Babson has recently completed a trip through the canal, down the west coast of South America and up the other side. He lectured on the various countries to the ship's company—by contract with the Red Star Line. This trip was primarily to develop our reporting service on South America for business men and investors. He carried letters of introduction to the presidents of all the leading republics and was given a commission by the Massachusetts Board of Labor and Industries to investigate business conditions for Massachusetts' manufacturers.

He is writing a series of articles on his trip for the *Saturday Evening Post*, New York *Sun*, Boston *Advertiser* and a number of western papers. Moreover, certain of these articles are to be published in book form by Little, Brown & Company. Of course you know the series of books which he is engaged in writing. The book which is now on the press is "The Future of Us Boys."

He is very much interested in and was chosen secretary of an association formed on the occasion when leading Americans met at Independence Hall to promote the same principles as those adopted by the society to "Eliminate Economic Causes of War." At this meeting United States was represented by A. J. Peters, assistant secretary of the treasury; and besides prominent South Americans, Cyrus H. K. Curtis, President Rea of the Pennsylvania R. R., Mayor Blankenburg and other well-known men were present. These are only a few of his many activities.

1899.

W. Malcolm Corse, *Sec.*, 106 Morris Avenue, Buffalo, N. Y.

We print the following extract from G. C. Winslow's letter of May 7, from Somerset, Pa.:

My position here is chief engineer and general manager of the Somerset Street Railway Company, of Somerset, Pa. We are just getting ready to build 36 miles of interurban trolley road at a cost of $1,500,000.00.

Also we have a short note from Tulsa, Oklahoma, from W. H. Mandeville, dated May 3:

I am looking after oil production. The only objection to living so far west is that it prevents getting east to reunions and dinners, but by staying here I manage to get three meals a day, so the average is good.

James B. Ellery gave an interesting lecture May 6, at the Unitarian Church, Erie, Pa., on "What We Owe Chemistry in One Generation." Ellery is chemist at the Erie Forge Company, and his lecture, acording to the Erie *Despatch*, "proved to be scientific enough to give the uninitiated a peep into that mysterious and fascinating science, which particularly in the last decade has engrossed the best minds of the world, and which promises to revolutionize industry and agriculture."

We quote as follows:

Chemistry is a skittish science. Although little over a century old, it has had at least three epochs already, and is now entering its fourth period, revolutionizing all previous theories held by the savants and is now dominated by the discoveries in radio-activity and electro-chemistry, the speaker said.

Chemistry is like a comet which sweeps across the sphere of knowledge, and to its tail hang the scientists who are dazed at the swift and erratic course which they are taking, and have all they can do to hang on. This at least was the impression that one of the "hoipolloi" gathered from the lecture. But Mr. Ellery had one thing to say for the chemists, namely, that they were not adverse to heaving overboard all their pet theories about the course of their comet, when it became necessary.

Scientists are not bound by special interests, declared Mr. Ellery. They seek truth and care not if all their previous theories fall to the ground in their quest.

He had a large number of flasks, beakers, and tubes containing strong acids, caustics and salt solutions which he juggled very cleverly, making cloudy solutions out of ordinary water, and changed it all back again, by the addition of a drop of another fluid. When he was through his experiments, the two tables in front of him were covered with glassware containing mixtures of various hues, blues, browns, yellow, cloudy white and green substances.

Briefly he sketched the epoch-making discoveries in chemistry and the fundamental laws which govern the science.

He spoke of the recent discovery in making gasoline from petroleum by Dr. Walter F. Rittman, the young Columbia student, which probably will give the United States the means of rivaling Germany in making dyes from coal products and will end the monopoly on petroleum, gasoline, benzine and allied products.

He mentioned also briefly the remarkable work that was being done in electro-chemistry by the armies of chemists at work in the laboratories of the great electric companies. The General Electric Company, he said, has over one hundred men at work researching in unexplored fields of science, the duPont Powder Company has over 250 men delving into the manufacture of explosives, who are only touching a small part of the field of chemistry, in addition there are hosts of students digging into the mines of knowledge in the colleges and universities all over the country.

In concluding he declared that the chemists who laughed at the efforts of the alchemists a century ago, now find that uranium does transmute itself into a metal, lead, and nothing that the chemists can do will stop it.

The science of chemistry is just in its swaddling clothes, declared the speaker. Chemists are now able to make food out of materials which are inedible separately, rubber out of simple substances which in themselves are useless, fertilizer out of the air, he said. What the future would bring will exceed the wildest dreams of all, he declared, in closing.

1900.

WILLIAM R. HURD, 2d. RICHARD WASTCOAT.
PERCY R. ZIEGLER.
INGERSOLL BOWDITCH, *Sec.*, 111 Devonshire Street, Boston, Mass.

Those of the class who did not attend the Pop Concert on June 8 missed a very fine occasion. The following were present: Allen, Conant, J. B. Graff, Reardon and Bowditch.

The secretary considered the advisability of having a class dinner before the Pops, but owing to lack of enthusiasm of members consulted, and the small attendance last year, decided not to attempt it. Next year it may be different.

The class of 1905 very kindly invited the secretaries of the different classes, whose years ended in 0 or 5, to be guests at their dinner; and Bowditch very gladly represented the class and had a very genial time.

Professor Barton was also present and told stories about his experiences in Honolulu, where he is planning to go this summer.

Jim Batcheller announces the birth, on May 26, of his fourth son, Oliver A. He is planning to go West this summer on business. He reports that Bob Leach, Course III, called to see him while on a motor trip from Bridgeport, Conn., and Buzzards Bay. He is putting up a big new factory building, for all forms of Sterling silver work and plating, for his company in Bridgeport and expects to move in by July 1. He told Jim that the whole Connecticut Valley is busy making shells for the Allies, but regrets that their specifications do not call for a coat of silver plate, as then his company could get part of the business.—The secretary has received the announcement of the marriage of Charley Leary to Miss Mary Hutchinson on April 21. They will be at home at 36 Beach avenue, Swampscott, Mass.—A cutting from the New York *Times* gives an interesting account of evidence given by Greenleaf Whittier Pickard, who was with the class in 1897-98, in the suit brought by the Marconi Telegraph Company against the Atlantic Communication Company for infringement of patents. Pickard presented as evidence more than 150 papers bound in volumes. He also illustrated some of his evidence by blackboard drawings.

It is hoped that the class letter appearing in the next number of the REVIEW will have news from the fellows who live in the foreign countries. Letters have been written to all those known to be outside the United States asking for news, and if anyone who knows of anyone living in a foreign country will send his name, or news about him, to Bowditch, it will be very much appreciated.

1901.

ROBERT L. WILLIAMS, *Sec.*, 8 Lake Street, Brighton, Mass.

The annual dinner and business meeting of the class was held as usual on the evening of Tech night at the Pops. The following officers were elected for the ensuing year: president, James F. Monaghan; vice-president, T. R. C. Boyd; secretary-treasurer, R. L. Williams.

It was voted that the following men be made members of the executive committee to hold a meeting some time in the fall to prepare for our quindecennial celebration: Edward Seaver, J. T. Scully, W. S. Pepperell, Preston Player, J. F. McGann, V. F. Holmes, and R. H. Stearns.

The secretary has received the following interesting letter from F. G. Clapp, who has returned from China to his home in Pittsburgh after a long trip extending over a year:

Having just returned from an absence of a year and a half in China, it has occurred to me to write you briefly of that experience for publication in the class news of the next REVIEW.

The departure from the United States was made in November, 1913, accompanied by Mr. and Mrs. M. L. Fuller, he being of the class of '96. The object was to make certain geological explorations in certain provinces of northern China, and we had not only opportunity of visiting the great cities of Shanghai, Hankow, Peking and Tientsin, but also of penetrating far inland on horseback to such poorly accessible places as Dolonnor on the edge of outer Mongolia in northern Chi-li Province, Yulinfu on the edge of Ordos Desert in northern Shensi, and Sianfu the capital of Shensi Province, which is a large city far in the interior. Naturally the experiences were many and most interesting, as it was necessary to travel thousands of miles on horseback, accompanied only by Chinese, stopping at night in such miserable native "inns" or residences as might be available.

The greater part of the country is extremely rough, and frequently hundreds of miles of trail are traversed without encountering a single cart road. The cart roads themselves are worse than any roads in the United States; but perhaps a little better than the ordinary road in the oil fields of Mexico. The extremely cold winters, together with the fierce sand-storms of the Mongolian Plateau and the severe heat of the summer, accompanied by floods which kept us waiting days on the banks of raging torrents, with occasional detours in order to avoid forces of armed bandits, and dinners with local officials in which every variety of native so-called delicacy was consumed with chop-sticks, all added to the interest.

Several Tech men were encountered in China, among them being K. Y. Kwong of the class of '84, who is chief engineer of the Peking-Kalgan Railway, and of its extension to Tatungfu and beyond.

In Shanghai, I stayed for several days with Frederick R. Sites of the class of '99, an old friend from Pittsburgh, who is chief engineer of the United States Steel Products Company there; and also had lunch with the Technology Club of Shanghai, at which about half a dozen Tech men, Chinese and Americans, were present.

—James F. Monaghan is now a consulting textile engineer with offices in Boston and Waltham, Mass. He does consulting work on bleaching, dyeing, printing and finishing of cotton, and linen piece goods. For a number of years before entering business for himself he was connected with the Waltham bleacheries.—Ralph Whitman is located at the U. S. Naval Academy, Annapolis, Md., where he is in charge of U. S. Navy Public Works.—C. F. Willard writes from Camden, N. J., where he is in the patent department of the Victor Talking Machine Company:

I recently dropped in to the Bureau of Construction and Repair, Navy Department, Washington, to inquire of the men there the address of Lewis W. Horne, and was pleased to find Fred B. Webster who hasn't been seen or hardly heard from by his classmates since 1901. We had a pleasant lunch together, and so far as time is concerned it has affected Webster little if any.

I was unable to locate Horne except that he is in lower California in business.

—Horace Johnson, as consulting chemist for C. Brewer and Company, supervises the chemical control and manufacture of sugar in ten sugar mills situated on the Islands of Hawaii, Maui, Oahu, and Pausi.— H. I. Wood is an incandescent lamp engineer for the General Electric Company. He spent the summer of 1914 in Europe on business for his company and visited England, Germany, Italy, and France.—Edward Seaver, Jr., has recently become connected with the sales department of the Westinghouse Machine

Company, Boston, having previously been for ten years in the engineering department of the same company in Pittsburgh.—The secretary has just returned from a two months' business trip in Canada and while there had the pleasure of seeing W. S. Pepperell in Montreal who was also there on business.—H. B. Wood writes:

Hudson, N. Y., is to have Chatauqua here April 20–26. I am president of the guarantors and am much interested from a civic standpoint. Hudson is waking up a little and now has a full fledged Woman's Club in which I am much interested as Mrs. Wood is its first president. I delivered five stereopticon trade lectures in different states recently, subject "Harvesting Ice."

Langdon Pearce, as division engineer, is in charge of the sanitary division of the Sanitary District of Chicago. He writes:

In private capacity as consulting engineer, have just completed jointly with George W. Fuller a twelve million gallon rapid filter plant at Evanston, Ill. I am also advising towns of Kenmore, Ohio, and Decatur, Ill., on sanitary matters involving water supply, sewerage, etc. Have given lectures on "Evanston Water Filter Plant," at Illinois Water Supply Association (Urbana, Ill., 1914); on "Sewage Pumping Stations" (with S. A. Greeley, M. I. T. 1905), on "Treatment of Industrial Wastes," before annual convention, Indiana Sanitary Water Supply Association, 1915, and on "Treatment of Packingtown Wastes," before Sanitary Section, Boston Society Civil Engineers, November, 1914. I see Dr. Berard frequently, the lively Western editor for the *Engineering Record;* and H. L. Grant, salesmanager, Western Electric Company, as well as F. W. Puckey, architect.

1902.

F. H. Hunter, *Sec.*, 281 Park Street, West Roxbury, Mass.
J. Albert Robinson, *Asst. Sec.*, care Underwriters' Bureau of New England, 141 Milk Street, Boston, Mass.

Since the last issue of the Review went to press there have been two gatherings of the class. On March 30 an informal dinner was held at the Lafayette Café, New York City, in charge of Vice-President Franklin. There were present, Bosworth, Ned Baker, Davis, Franklin, Archie Gardner, Hathaway, Hunter, Manley, Montgomery, Seabury, Mathesius, and Grant Taylor, also Mr. W. S. Babcock, '83, and Mr. H. B. Nichols as guests. Mr. Babcock has been adopted by the New York men and we hope will be a regular attendant at all class affairs. There were no formal speeches; the class secretary spoke informally about class affairs, and Mr. Nichols talked on the business outlook as reflected by the statistical data compiled by his department of the Barrett Manufacturing Company. Messrs. Gardner, Mathesius and Montgomery were appointed a committee to assist the vice-president in arranging for a program at future gatherings in New York. Franklin was unanimously nominated as vice-president for another year.

On June 8 the annual meeting of the class was held at a dinner at the Engineers Club, Boston. There were present, Ames, Col-

lier, Hall, Haskell, Hunter, Mahar, Nickerson, Burt Philbrick, Robinson, Sawyer, Shedd, Stillings, Walker and Whittet. The secretary read a brief message from Brodie from Sydney, N. S. W., and a letter from Pendergast, from Nara, Japan, telling of a trip through the Philippines, nearly down to Sulu, and of an outing to Japan. He reports that he is getting Orientalized fast, except in the matter of sitting cross-legged on the floor. At the business session the following officers were chosen: president, Walter Fitch; vice-presidents, Franklin of New York, Lockett of Chicago, and Whittet of Boston. The usual bitter struggle for the office of assistant secretary did not take place this year, Robinson being reëlected without opposition.

The class adjourned to Symphony Hall for the Pops, where Bill Lewis was found to help with his lusty lungs in raising the class yell. An enjoyable evening was spent. The stunt presented by the seniors, entitled "The Presidential Range," and described elsewhere in the REVIEW, made a pleasant variation in the usual Pop program. A section in the balcony was occupied by the ladies, among them being Mesdames Nickerson, Stillings, Haskell, Philbrick, Walker and the Misses Robinson and Mahar.

Alsberg is located in Chicago, with the N. K. Fairbanks Company at 7 South Dearborn street. His residence and mail address is 4431 Malden street, Chicago.—James H. Brown is at Short Beach, Conn.—Manning is with the Package Machinery Company of Springfield, Mass.—Crowell has moved his home from Watertown to Allston, Mass., No. 25 Park Vale avenue.—Manley was married on June 10 to Miss Louise Arthur Hinde at St. John's Church, Cuyahoga Falls, Ohio. Mr. and Mrs. Manley came east on a short trip, which included a visit to Harry's old home in West Roxbury, Mass. where the class secretary and Mrs. Hunter had the pleasure of meeting the bride. For a few months the Manley's address will be 263 West 71st street, New York, but in the fall they expect to locate nearer to Harry's work on the Rapid Transit Extension on Long Island.—Miriam Symonds Shedd, who arrived on April 29, is the latest report for our cradle roll.—Walter Farmer is with the Champlain Silk Mills, Whitehall, N. Y.—Reed has sold his interest in the Traffic Service Bureau of Chicago, and is now located in Los Angeles where his address is 728 North Wilton Place. —George W. Rice is at Columbus, N. C.—Nash is with Sulzberger & Sons Company, Chicago, his residence address being 2022 West 103rd street.—Stebbins is an instructor in mechanical engineering at Leland Stanford, Jr., University, University, Cal.—Irving Williams has returned to Altoona, Pa., where he is located in the shops of the Pennsylvania R. R. His mail address is Box 605, Altoona. —Claude Patch is in New Haven, Conn., taking part in the erection of some large reinforced concrete buildings which the Aberthaw Construction Company are putting up for the Winchester Arms Company.—Hammond is now located with the Turner Con-

struction Company, 11 Broadway, New York.—Charlie Smith is expected in this country soon. Smith was superintendent of a mine in the Caucasus Mountains when the war broke out. As his crew was part Cossacks and part Turks he soon had a young war of his own and had an exciting time in getting his wife and himself away from the trouble. For several months he has been assisting in relief work in Belgium.—We learn that H. A. Everett has been appointed to the position of professor of marine engineering in the post-graduate department of the U. S. Naval Academy at Annapolis. Everett has been in the service of the Institute for some years, first as assistant, six years as instructor and since 1911 assistant professor. His promotion to associate professor was confirmed at the June meeting of the Executive Committee. In addition to his regular work Professor Everett spent a season with the Light House Engineers in Philadelphia and a second summer in the yard of William Denny & Brother of Dumbarton, a privilege only one other American was ever permitted, and that one was Admiral Bowles. He has made many valuable experiments with the Tech navy, the *Froude* and the *Fulton* and in his work as official yacht measurer for all the major eastern clubs he has developed a number of new methods and new measuring devices.

We note the following from the *National Corporation Reporter* of June 10:

Among the recent developments of more than ordinary interest in the sale and distribution of machinery and electrical supplies is the formation of a copartnership between Robert C. Fenner and John R. Marvin, under the firm name of Fenner & Marvin, to act as sales managers for a number of manufacturers whose products are confined largely to mechanical and electrical specialties. They have opened offices at 1253 Peoples Gas Building, 122 South Michigan avenue, where they always give a cordial welcome to callers interested in the lines indicated. Both gentlemen are well known in the electrical circles of the country.

For the past nine years Mr. Fenner has been connected with the Cutler-Hammer Company. Prior to this valuable business experience Mr. Fenner was instructor in Physics in Cornell University.

Mr. Marvin was for three years New England manager of the Diehl Manufacturing Company, large producers of motors and electric fans. He resigned to take the position of manager of the Western Electric Company's St. Paul office. Two years ago, upon a vacancy occurring in the Chicago office of the Diehl Manufacturing Company that company called Mr. Marvin back to their organization to take the position of manager of their Chicago office. His wide experience and practical ability, combined with technical knowledge, make him a valuable man in the electrical business.

The firm of Fenner & Marvin is arranging to act as sales managers for different manufacturers of non-competing products and to take over complete charge of their sales policy and the marketing of their entire output. So far as is known, there is no other firm in the country doing similar work, it being a new departure.

1903.

MYRON H. CLARK, *Sec.*, 1790 Broadway, New York, N. Y.
RALPH H. NUTTER, *Asst. Sec.*, Box 272, Lynn, Mass.

The scarcity of news for this issue of the REVIEW would seem to

prove that the '03 men, at least, are living up to the American idea that "Business is Life" and "Life is Business," with no possible opportunity of squeezing in any other interest.

If you have no time for carrying on an extensive correspondence with the individual members of the class, why not send your gists to the secretary and let the REVIEW be the medium for imparting the information to all who are interested? Then we should have no such complaints as are quoted hereafter.

Sammet contributes as follows:

Received your letter and am sorry I delayed in answering it, but I expected to go to New York last week and thought I would drop in to see you. I may get there yet and will look you up.

It is seldom I hear from any of the class any more and I regret it very much as I am always interested in learning that the other fellow is doing well.

I am still connected with the Leather and Paper Laboratory, developing the work entirely along research lines. Our laboratory consists of ten chemists, each specializing in his particular line, devising new and improved processes, methods of analysis, and experimenting constantly to increase yields and utilize products in the various branches of paper making, manufacture of leather and production of naval stores. The work is most fascinating besides being instructive as the fields are so fruitful. We are always glad to see visitors and, if they are seeking information, to aid them as much as we properly can.

The following clipping will interest Course V, especially:

I see that the Franklin Union has announced a new summer day course in industrial chemistry, to begin the latter part of June. It will last for six weeks and will be under the direction of John W. Calnan, Technology '03. The studies will include analyses of soaps, acids, fuels, oils, alloys, rubber, leather, paints and other commercial products.

Walter B. Russell, director of the Union, tells me that the department of industrial chemistry has proved very popular at the Union and that more than 600 students have been enrolled since it was begun in 1908.

Mr. and Mrs. Walter P. Regestein are to be congratulated on the birth of a daughter, Marjorie, on March 26, 1915.

1904.

HENRY W. STEVENS, *Sec.*, 39 Boylston Street, Boston, Mass.
AMASA M. HOLCOMBE, *Asst. Sec.*, 510 Pine Street, St. Louis, Mo.

It is evident that the shock of not seeing any class news in the last issue of the REVIEW, had no effect on the consciences of the members of the class. The only effect noticeable to the secretary has been a spirit of criticism aimed at that official, because there was no news published.

There are two reasons why there was nothing in the last issue: first, because no one sent any news to the secretary, and, second, because the secretary did not find anything himself. The only reason there is any news this month is because there happens to be.

The class was represented at the Pops by the following members, accompanied by the secretary: C. J. Emerson, P. S. Sweetser,

Galusha, Hiller, Gunn, Haynes, L. H. Smith, Comstock, A. E. Sweetser. The class yell was given once, and with such success that several people, seated at least twenty-five feet from our table, looked around to see what was going on. As far as the secretary was able to discern, people in the balcony were not disturbed by the uproar.

The "Presidential Range" was enjoyed by the class, particularly as the success of the entertainment was assured by the fact that Galusha was a member of the committee of arrangements.

Charlie Haynes is now located at Naugatuck, Conn., with the Goodyear Metallic Rubber Shoe Company. The secretary has had more or less experience with rubber, but metallic rubber is a new one. It is evidently a secret product because nothing could be learned from Charlie. Rumors were afloat at the Pops that Haynes is soon to be married. When asked point-blank by the secretary, Charlie admitted that "the population of Naugatuck would be increased by one very soon." So by the time the class reads these words, Charlie has probably been married.—Speaking of marriages, the following clipping from the *Boston Transcript* of March 13, 1915 shows that another member of the class will soon become a benedict:

> The engagement of Miss Mary G. Murray, daughter of Mrs. Eliza Murray, to Carle R. Hayward of Quincy, is announced. Mr. Hayward is a graduate of Massachusetts Institute of Technology, and is now a member of the faculty of that institution. Miss Murray is a teacher in one of Quincy's schools.

—Ed Parker has just moved into his new house, which he has had built during the past spring, at Norwood, Mass.

The following address changes have been received: Garrit S. Cannon, Railway Improvement Co., 61 Broadway, N. Y.—John F. Card, Independent Foundry Co., Portland, Ore.—Henry F. Causebrook, So. Western Portland Cement Co., El Paso, Tex.—Carl S. Chace, 716 Columbus Ave., Boston.—Ernest L. Clifford, Mead-Morrison Co., Monadnock Bldg., Chicago.—James W. Cobb, Turner-Brown Co., 35 Congress St., Boston.—William H. Conant, 604 Kerr Bldg., Detroit, Mich.—Allan S. Courtney, 2008 So. Harrison St., Fort Wayne, Ind.—C. C. Easterbrooks, 85 Whitney Pl., Buffalo, N. Y.—Charles W. Elmer, Simplex Wire & Cable Co., 201 Devonshire St., Boston.—Victor H. Elsas, 7315 St. Charles Ave., New Orleans, La.—Robert B. Morse, 16 W. Saratoga St., Baltimore, Md.—Orville W. Paddock, 122 Michigan Blvd., Chicago.—Lee Phillips, Terrace Ave., Carnegie, Pa.—Howard L. Pierce, 302 Seaman St., New Brunswick, N. J.—Henry S. Pitts, 573 Turks Head Bldg., Providence, R. I.—Arthur P. Porter, 381 South Station, Boston.—William F. Rech, 22 William St., Auburn, N. Y.—William N. Todd, 126 William St., Woodford's Sta., Portland, Me.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston.
CHARLES W. HAWKES, *Asst. Sec.*, 23 Saxon Newton Road, Highlands, Mass.

First in order for this batch of class notes is a brief account of the celebration of our tenth anniversary. As per schedule the crowd gathered at Rowes Wharf at 12 o'clock noon on June 8, the following men being present: A. H. Abbott, Roy Allen, Billy Ball, R. E. Bell, Henry Buff, Zeke Coffin, C. C. Curtis, A. C. Dickerman, Andy Fisher, Fred Goldthwait, Charles W. Hawkes, C. H. Johnson, C. W. Johnston, Roy Lovejoy, Robert McLean, Grove Marcy, Albert Prescott, George Rose, Ted Steele, Harry Whitney, Bill Green, L. L. Winship, C. R. Shaw, Hub Kenway, Myron Helpern, Bob Farrington, James F. Fouhy, Bob Gardner, C. W. Babcock, Sid Cole, Frank Drake, Tom Burns, Prince Crowell.

At this stage a fellow with red whiskers introduced himself by the name of Kleinhut, and said he was with us part of the first term, and had been in South America ever since, and would like to go along. He was made welcome as a member of the party, though few of the fellows could remember him.

By the successive stages of the ferry boat, Narrow Gauge Railroad, and a short walk, the crowd arrived safely at the Point Shirley Club, where, after looking around a little, we all sat down to a bang-up lobster dinner. When we were about half through the secretary pulled out a very interesting letter from George Thomas who is more or less interned in Podolsk, Russia. As the letter evidently "started something" we might as well print most of it here.

I have before me a copy of my letter of 21st June, 1914, in which I stated that I was leaving here in two or three months to come over and get my family. Well, that was but an idle dream. I am still here and from the looks of things am likely to be here for some time to come. I had made all my plans to leave here August 2; had tickets all the way through to New York and considered the thing settled. About a week before it was time for me to leave here, I received a gentle hint from higher up that traveling through Germany wasn't likely to be extremely pleasant, but I said I thought I had picked up enough German to make my way and that I would risk it. However, a little later I was told that the railroads were no longer accepting passengers for Germany and then came the declaration of war and all the resulting confusion and horror which you probably know as intimately as I do.

We lost rather more than 25 per cent. of our workmen and staff at the first mobilization and a lot more at subsequent mobilizations so that we have been badly crippled. Also we were shut off from supplies of foreign materials and supplies so that we have had to use a lot of Yankee ingenuity to find substitutes. However, we managed to revise our arrangements here—shift our men and staff around and keep up a very fair rate of production. In many ways, in fact, particularly in the extension of use of female labor and of Russian materials, the war has materially benefited us by forcing us to make moves which we have long contemplated but had not made on account of press of other work. I want to impress it upon you as strongly as possible that a lot of stuff I have seen printed in American newspapers is all rot. I have been right in among the Russian people—the real peasant Russians and the high class Russians as well—and there are no two opinions among them.

All agree that Germany must and will be defeated. All are giving of their time and money to help; many who for one reason or another would not be called out under existing laws are enlisting, volunteering of their own free will for one or two years. No one who has seen the audiences in the famous "Big Theatre" in Moscow fairly leap to their feet at the playing of the first chord of the Russian National Anthem and of those of the Allies, and seen the quiet but yet impressive way in which they listen and then heard the cheers at the close, could have any doubt as to the feeling of the Russian people.

If there was before the war an undercurrent of dissatisfaction with existing things, that feeling disappeared at the first whisper of the word "war". I have been in a number of the celebrations following Russian victories and memorial services for the fallen, and I have yet to meet a Russian who is not unqualifiedly in favor of the war. The business men realize that this is their opportunity for building up Russian works and Russian houses to replace the German works and houses. They realize that a vast quantity of merchandise previously imported can be made as well and as cheaply here. I venture the opinion that Russia will not only emerge from this war victorious but that a new Russia—a better Russia—will immediately rise up in place of the old.

During all these months of war I have been in and out of Moscow and around very frequently and freely, and the only reports of any thing bordering on rowdyism have been incidents that would have occured in Boston under similar circumstances. The German wounded and prisoners behave very badly. I know a very intelligent and cultivated little lady, the wife of one of our staff here, who has been serving on one of the Red Cross trains which are transporting wounded from the front, both from the Warsaw district and the Caucasus, and she relates instances of gross and unbelievable conduct of wounded Germans towards herself and other nurses who are trying to feed and relieve them. A man who tries to bite the hand or spit in the face of the nurse who is trying to feed him, merits rough treatment. I am pleased to be able to advise that they are getting it. I have yet to see a prisoner. They are not as a rule marched through the streets as has been reported and are not subjected to anything more than idle curiosity in the transfers from train to train which take place in Moscow.

Now perhaps you think I haven't been busy those past few months. The hours I have put in and the work I have done would make the course at the Institute seem like a quiet vacation. I have become a Russian in everything but speech and I am doing my *darndest* to Russianize my tongue and with fair success, I believe. I spoke a poor imitation of German up to the time war broke out, but since that time if anyone speaks German in my office he gets thrown out.

I have not seen my wife or children since January 31, 1914, which is more than fourteen months. I am afraid Mrs. Thomas will divorce me on the ground of desertion but, if my memory serves me, I can safely stay away some time, yet. I am going to make an awful effort to get over before it's time for my small boy to start for Tech. I am hoping now to get away from here in August which is too late for Boston in 1915 and hence the reason for this long letter.

At the outbreak of hostilities my household furniture was at Riga and I watched with some anxiety the efforts of the Germans to bombard my stuff, but finally got it all away and safely here.

Your suggestion about my freshman uniform shows up your gross ignorance or forgetfulness. Who ever heard of a man who didn't sell his uniform to some unsuspecting freshman! Of course perhaps you didn't but I made money on mine. Reading proof in Russian is not bad at all; it's interesting, there is so much more variety to the words when they are made up from an alphabet of thirty-six letters instead of twenty-six that it's far less monotonous. Brush up on permutations and combinations and see for yourself.

Please remember me to all the boys, not omitting my kindest regards to yourself. I had looked forward to being with you and trying for the long distance travel record and you may well believe that in spirit I shall be with you in the celebration of the tenth anniversary of our graduation.

This very interesting letter was received with enthusiastic applause,

and started a discussion, which was with difficulty kept within the limits of strict neutrality.

After a few more clam, fish and lobster courses had been served, Kleinhut was called on for an account of what had happened to him since leaving Tech. He started in in a somewhat embarrassed and peeved manner, and it was soon apparent that the worst thing that had happened to him since leaving Tech was to be drawn in on the celebration of our tenth anniversary. It didn't appeal to him as far as it had gone, and he didn't object to letting us know it. In fact, several things had rubbed him the wrong way. Where were the much advertised stunts? And what was meant by reading a letter like that in front of a man with a name like his? He seemed to feel so badly about it, that somebody suggested giving him his money back, at which he got mad, and grew more and more personal until several fellows volunteered to put him out. At this stage he turned on the secretary, and words seemed to be about to lead to blows. At the point where the secretary could stand it no longer, he reached out and grabbed the bright, bushy whiskers of the gentleman, and to the surprise of everybody they came out in his hand, and revealed the smiling countenance of John Tinker Glidden, who had certainly fooled everybody, and sold the whole bunch on his make-up, as a lot of the fellows had not seen John since graduation. It was a happy surprise all around, and the fellows, who had been most ready to fight a minute before, laughed the loudest at the way John had fooled them.

Soon after this, an unfortunate waiter stubbed his toe and sent a tray full of dishes crashing to the floor with a smash that made everybody jump about two feet. Al. Prescott got up solemnly and said he understood the waiter had got to pay for the dishes, which was too bad, on a happy occasion like this, and so he threw a quarter in a glass, and started it around the table. After everybody had chipped in for the benefit of the poor waiter, it was carefully explained that the dishes had been already smashed, when they had been brought in, but that we would keep the money, and see that it went where it would do the most good, which seemed to please the waiters.

After dinner John Glidden was master of sports, and got first the two smallest fellows, and then the two largest fellows astride of a bar just so that each cleared the ground, armed each with a pillow, and told each one to try to knock the other fellow off. Whitney and Babcock were a tie; Coffin and Johnson were a draw, and when Bob Gardner and Ray Bell got at it, it nearly broke up the meeting. Cock-fighting, and a gentle game of swatting the other blind-folded fellow with a folded newspaper kept the crowd interested, until Bill Green was ready to pull off his phone-cinematigraphic show. Bill had a small pasteboard moving picture machine, which emitted a musical tinkle as he turned the crank. The

Scenario was entitled "The Birth of a-Lumni," which Bill explained in a very clever monologue as the feats were enacted in pantomime by various members of the crowd who were pressed into service without any rehearsal whatever. Their familiarity with the scenes depicted, however, enabled them to carry it off with great eclatter. The program follows:

THE BIRTH OF A LUMNI

A Stupendous Spectacle Presented by the Marvelous Phone-cinematigraphic Process

Four Long Years in Preparation

Under the Personal Direction of Harry Tyler

By the Original Cast Assisted by two Oriental Beauties in Costly Costumes from their Native Land

Costumes by Spinoza

Scene 1.—"And now make a duplicate set for use in the Bursar's Office."

Scene 2.—Special Co-op Prices.

Scene 3.—The 1905 crew putting in some hard training on the Charles.

Scene 4.—The same crew putting one of Arlo's lectures on The Fritz.

Scene 5.—Where Mrs. King set up the cutsup.

Scene 6.—Chorus rehearsal for "Simon Pure Brass."

The show was cut short by the toot of the whistle on the tug boat *Vesta* which was waiting at the dock to take us up the harbor. We had hardly left the pier when a wail of distress stopped the boat and sent it back to the club for the reason that a very important implement had been forgotten. Through the kindness of Burkhardt, a keg of the best brew from the Burkhardt Brewing Company had been sent to the Point Shirley Club to lubricate the celebration. A similar keg was waiting for us at the City Club, and a patent spigot, or bung-starter or draught-tube had been sent with the first keg, and was also needed for the second keg. It was very essential that we should not forget to take it along. Captain Ford swung the boat in a very short circle when he learned what was the matter, and in a few minutes we had recovered the spigot and were on our way again up the harbor. At this point the sun came out brightly, and we had a beautiful trip around the harbor, and up by the navy yard, landing on Atlantic avenue.

From this point, the crowd walked up to the City Club where we found Charlie Pritchard waiting for us, and also Professor Barton of the class of '80. G. L. Gilmore of the class of '90, and Ingersoll Bowditch of the class of '00, who joined us at an informal supper and punch, and brought us greetings from their respective classes of the five-year period with ours.

The following telegram from George Jones was greeted with much applause:

My kind regards to all the boys!
Who help you make reunion noise,
While you devour at 1 o'clock
A lobster dinner with your flock,

I find a stool before a counter
And saddened by my exile mount'er,
However, next year, I'll arrive
And celebrate with 1905.

Zeke Coffin had provided opera hats which were distributed at this time, bearing the numerals '05 conspicuously in front. It was voted to parade to Symphony Hall, so we marched two by two across the Common, halting in front of Rogers Building to cheer, and then on to Symphony Hall, where we marched into the Pops in a body. Here we picked up John Ayer, Selskar Gunn, Walter Clarke, Walter Eichler, Charlie Boggs, Ralph Whitcomb, A. E. Sweetser, Doc Lewis, T. A. Dissel, and Carl Atwood, making forty-four '05 men in all.

Tech night at the Pops is described elsewhere. Suffice it to say, that every' 05 man appeared to have a bully good time, and everyone promised to use his utmost endeavors to get all his friends to attend next year, which we will make our real tenth anniversary celebration, and go off somewhere by ourselves for several days in camp, returning to take part in the big Technology reunion which is scheduled for next year.

Grafton Perkins announces the birth of a daughter, Deborah, born on January 16.—Alden Merrill has a daughter, Elinor, born April 30. Alden's address is 81 Newton terrace, Waterbury, Conn. —Harry Wentworth announces the arrival of Vincent Ellis Wentworth on May 19.—The engagement of Miss Hazel Hunt of Cincinnati to Kilborn Whitman is announced.—W. Wiggin is now with the du Pont Powder Company at City Point, Va.—T. B. Cabell's address has been corrected to 736 Euclid avenue, Jackson, Miss.—H. M. Cowper and T. Green are treasurer and vice-president, respectively, of the Hydro Construction Company, with offices at 1010 Mutual Life Building, Buffalo. They are contracting engineers, specializing in reinforced concrete work, particularly the flat slab style of construction, and report a gain over last year, despite generally dull conditions.—Roy Allen is leading the quiet life at Jamesburg, N. J., writing and farming, while waitfully watching for things to settle down in Mexico.—Joe Daniels got back to his beloved Seattle in March, after installing a mining exhibit at the San Francisco Exposition. He has a small Dutch Colonial house on University Boulevard, and is enjoying housekeeping in Professors' Row. He is teaching at the university, and doing some outside mining work.—Lloyd T. Buell says:

The efficiency doctrine alienated my affections from mining for a time and I joined the staff of Harrington Emerson, in Laporte, Ind. Then a brief return to mining at Butte, Mont, as designer of head frames for the North Butte Company. There were attractions in New York that could not be withstood. Mrs. Buell,

whom I met in Laporte before going to Butte, was here. I came on and the ceremony was performed October 14, 1914. Mining being dull, connection was made with the *Review of Reviews* Company. The Emerson Institute is a correspondence school in efficiency principles and my former connection with Emerson helps out.

—Bill Spalding has finally abandoned his defiant single state and the good news of his engagement to Miss Alice Brown of Buffalo is one of the happy things to mark this batch of class news. Bill says the problems connected with the making of hats and caps under efficiency principles are "absolutely absorbing in their interest."

1906.

C. F. W. WETTERER, *Sec.*, 147 Milk Street, Boston, Mass.
JAMES W. KIDDER, *Asst. Sec.*, 50 Oliver Street, Boston, Mass.

There has recently appeared in the *Dallas News*, of Dallas, Tex., a series of papers on "Public Health Problems," by Charles Saville, who graduated with 1906 in sanitary engineering. Saville has recently been connected, as sanitary engineer, with Messrs. Bartlett & Ranney, consulting engineers, with offices in Dallas and San Antonio, Tex. Both Bartlett and Ranney graduated with '06. Saville also read a paper in November, 1914, at the second annual convention of the League of Texas Municipalities at Houston, Tex., entitled "State Supervision of Water Supplies in its Relation to Public Health." Within the past few weeks, Saville has been appointed director of sanitation for the city of Dallas, and has probably, by this time, entered upon his new duties.—Ralph Hayden, formerly superintendent of the slime plants, has been appointed superintendent of the regrinding and flotation plants at the Washoe Reduction Works, Anaconda, Mont., and will also have charge of the new slime plant upon its completion.—E. S. Bardwell, who has lately been in charge of the Anaconda Copper Mining Company's exhibit at the San Francisco Exposition, has returned to the Boston & Montana Reduction Works at Great Falls, Mont.—A letter from Hermann C. Henrici of the Henrici, Kent & Lowry Engineering Company, Kansas City, contains the following information which will be of interest to the class:

We have quite a representation of 1906 men here now with Alfred Hertz, IV, and Laurence Blodgett, I. Alfred is with Smith, Rea and Lovitt, architects, who design all of our school buildings and Laurence is with his father and brother in steel bridge construction work and reënforced concrete work in connection with several railroads. Yours truly has been in the consulting engineering work for some time and is confining his work to mechanical and electrical engineering. We recently designed and supervised the $150,000 power plant for Montgomery Ward & Company and have designed and installed a number of municipal water and light plants. We have made a number of appraisals of electric light, water works and telephone plants and have done quite a good deal of work before the utility commissions. The reports which we receive from the East indicate that you have suffered a general business depression which we have also felt to a less extent. We depend on the farmers and, with 150,000,000 bushels of wheat from Kansas alone for this year, we believe that we will not know a war is going on except to keep up the price of wheat and increase our income.

Fred Earle is in business under the title of "F. E. Earle Company, 50 North Second Street, New Bedford, Massachusetts." His letterhead shows that he is engaged in piping, steam-fitting, heavy machine and boiler work, etc.—During the early part of May, Percy Tillson and H. C. Merriam were in Boston.—Recent notices, with regard to activities in other cities, show that J. H. Feenster, Jr., has been elected a member of the executive committee of the Cincinnati Technology Club, and Floyd M. Fuller secretary-treasurer of the Technology Club of Lake Superior.—Mrs. George Andrew Scott has announced the marriage of her daughter, Helen, to Clifford Redman Wilfley, on Wednesday, April 28, 1915, at Ouray, Col.—There has been announced, in London, the engagement of Miss Katharine A. Page, daughter of Walter Hines Page, the American ambassador to England, to Charles Greely Loring, son of the late Gen. Charles Loring of Boston. Miss Page was graduated from Bryn Mawr in 1913. Mr. Loring is located in Boston, following architecture.

Tuesday, June 8, was Tech Night at the Symphony Hall Pops in Boston. Twelve 1906 men were present as follows: Carter, Norton, Clarke, Barber, Chadwick, Tomlinson, Kasson, Kidder, Farwell, Chadbourne, Ginsburg and Wetterer.

Ginsburg has recently received advice from H. W. Dean that he visited the San Francisco Exposition, going via the Panama Canal and returning via the Grand Canyon, Colorado Springs and Niagara Falls.—Van Hook is with the Louisville and Nashville Railroad, with headquarters at Birmingham, Ala.

It is with the deepest regret that we have to report the death of C. B. Powell. The following item is from a Wichita, Kan., paper, where Powell's parents live:

Clarence Brewster Powell was born December 6, 1883, at Table Grove, Ill. At the age of three he came to Kansas with his parents, Mr. and Mrs. John L. Powell, and grew to manhood in Wichita.

As a student he passed, with high honors, through the grade schools and graduated from the Wichita High School with the famous class of 1902, serving as president of his class in the first year.

The following year was spent in the Kansas University, and, in the fall of 1903, he entered the Massachusetts Institute of Technology at Boston where he continued until graduation in June, 1906, as an electrical engineer. His college record discloses that he was a member of the Musical Clubs in 1904–05; president, Association of Clubs, 1905–06; member Tech Show, 1904; member Missouri Club and Sigma Chi fraternity, and graduated second in his class.

After graduation he entered the service of the Bell Telephone Company, at Philadelphia, in the electrical engineering department. Two years later he became affected with tuberculosis and came West, living at various points in Colorado, New Mexico, and Arizona during the succeeding years.

In 1909 he entered the engineering department of the Mountain States Telephone Company (the Bell Company) at Denver, and for several years had electrical supervision of their plants throughout the states of Colorado, Utah, Idaho, Wyoming, New Mexico, and Arizona.

During his last year of service with this company he was manager of their plants at Raton and Las Vegas and, if his health had permitted, would have been named district manager for western New Mexico and southern Colorado.

While every effort was made to improve his condition during this period, yet his health gradually failed him and in the spring of 1914 he returned to Wichita and was with his parents at their home on College Hill for several months. His condition became so critical in September last, however, that he entered the Pottenger Sanatorium at Monrovia, Cal., located in the foothills about twenty miles northeast of Los Angeles, where he remained until his death at 1.30 p. m., Sunday, April 11, 1915.

H. S. Whiting was recently in Boston. Until a few months ago he was located in the Panama Canal Zone as engineer in connection with the illumination layout. He is now in charge of the electric fixture department of J. Livingston & Company, Grand Central Terminal Building, New York. This concern are large wiring contractors and in addition, manufacture electric lighting fixtures. —Mr. and Mrs. Kidder have announced the birth of a son on June 21, 1915, James Norton Kidder, weight 8¾ pounds.

1907.

BRYANT NICHOLS, *Sec.*, 10 Grand View Road, Chelsea, Mass.
HAROLD S. WONSON, *Asst. Sec.*, Waban, Mass.

An informal dinner of the class was held at the Winter Garden of Hotel Westminster, Boston, on June 8. The members of the class who were present were: H. S. Wonson, Hugh Pastoriza, George R. Norton, Macomber, Allen Pope, John J. Thomas, Harry Moody, William B. Coffin, H. B. Hosmer, John Tetlow, G. E. Prouty, Fred Morrill, Oscar Starkweather, and Bryant Nichols. Our honorary member, Bursar Ford, was also there, and John Thomas had with him as a guest Captain Morse, U. S. A., M. I. T., '99. After a pleasant time around the tables, this group adjourned to Symphony Hall to Tech Night at the Pops, where of the class, Don Robbins, J. E. Tresnon, and Eugene Phelps joined them. The gathering of the evening of '07 men was specially interesting because of the presence of several men who have seldom been seen at an '07 event around Boston since the class graduated. Pastoriza, Tresnon, Norton, Phelps, and Tetlow were particularly welcome on this account.

A letter from C. R. Bragdon, dated May 21, shows that he has become supervisor of the varnish works of Ault & Wiborg in Cincinnati.—Charles E. Baker's address is St. Germain street, Quincy, Mass.—A son, Richard White Garratt, was born to Mr. and Mrs. James E. Garratt on April 16, 1915. Jim's address is 702 Pilgard Building, Hartford, Conn.—C. R. Lamont is now living at 133 Bromfield street, Wollaston Beach, Mass.—George R. Norton, captain, U. S. A., has been transferred from Rock Island, Ill., to New London, Conn.—Eugene Phelps, who happened to be in Boston so that he could attend the celebration at the Pops on June 8, is still a rancher in Meeteetse, Wyo. He says it is good healthy work and profitable.—Don Robbins is receiving congratulations on becoming the father of a son, Donald Goodrich, Jr., on May 5, 1915.—John Thomas, captain, U. S. A., left for the

Philippine Islands the latter part of June, 1915. He did not know when at the dinner June 8 what his address would be, but promised to write a letter soon after he arrived, telling all about the place.—Albert E. Wiggin, formerly concentration engineer at the Washoe Reduction Works, Anaconda, Mont., has been appointed superintendent of concentration and will have charge of all concentrating operations of the Anaconda Copper Mining Company in the state of Montana.

1908.

RUDOLPH B. WEILER, *Sec.*, Care The Sharples Separator Co., West Chester, Pa.

CHARLES W. WHITMORE, *Asst. Sec.*, Care of Lockwood, Greene & Co., 60 Federal Street, Boston, Mass.

I. *On the part of the Secretaries*

The regular bi-monthly dinner was held at the Boston City Club on Tuesday evening, May 11. There were eighteen enthusiastic men present and, for some reason, the single team won the bowling match by getting the total pin fall and one out of two strings. It might be accounted as their last faint kick, since they stand to lose some of their best men, among them Tim Collins and Burt Cary.

The subject of the next dinner being held at some beach on a Saturday was taken up and Tim Collins suggested a week-end somewhere. Every man present was strong for this and stated that they would come, if possible, should such a party be held. Accordingly the resident secretary appointed the following committee to act: L. T. Collins, chairman, E. Wells, secretary, B. W. Cary, William Toppan, C. W. Whitmore.

This committee will make all arrangements and publish notices which will be received before this is published.

The following were present: A. B. Appleton, William H. Toppan, Lincoln Mayo, Howard Luther, L. T. Collins, Langdon Coffin, B. W. Cary, E. J. Beede, H. L. Carter, E. H. Newhall, S. C. Lyon, A. W. Heath, E. I. Wells, W. E. Barton, W. D. Ford, F. Towle, Joseph Pope, C. W. Whitmore.

H. A. Cole, Jr., Fitchburg, Mass., writes

> Have a candidate for 1938 who is three weeks old. Hope he gets away with it better than the old man.

We are in receipt of indirect information that J. C. Gaylord lost his wife and young child in a trolley wreck at Los Angeles on May 7. We are not in possession of any details but the sympathy of all will go out to our bereaved classmate in his loss.

There were about twenty '08 men at the Pops. We delivered a stunt but got a lemon handed to us by the Pops committee by being seated behind the classes of 1909 and 1910 in the back row of the hall.

Leo Loeb has left the U. S. Naval Academy, where he has been teaching, and is now with J. H. Weaver, Land Title Building, Philadelphia, as mechanical engineer.—R. A. Schmucker, who was with the class but a short time, returned to the Institute and received his degree in June. He has gone to Chile with the Braden Copper Company, Rancagua.

II. *New Addresses*

H. T. Gerrish, 10 Haskell St., Melrose, Mass.—Ted Joy, Box 502, Fall River, Mass.

III. *Matrimonial*

The marriage is announced of Miss Helen W. Gerrish to L. B. Ellis on June 2. Pop Gerrish was best man. They will reside in Montreal.—The engagement is announced of Miss Mildred E. Tilden, Smith '13, to Burton W. Cary.—The marriage is announced of Miss Hortense R. Cole to A. T. Hinckley at Niagara Falls, June 24. At home after September 1 at 548 5th street.

1909.

CARL W. GRAM, *Sec.*, with Walter Baker & Co., Ltd., Milton, Mass.

On April 17, Tech Show Alumni Night at the Boston Opera House, nine of us turned up at the Technology Club for dinner—Albert and Mrs. Thomley came up from Providence, while Clarence Reeds drove over the road from Taunton accompanied by a very attractive young lady and L. D. Chapman came up from New Bedford with Mrs. Chapman. The relative merits of the "1909 Juniors" formed the principle topic for discussion at the dinner, but a short time was given over to discussing when to hold our class reunion. In order to explain the decision arrived at it may be worth while to review briefly the history of All-Technology reunions. The first one was held in 1904, and did not celebrate any particular event in the history of the Institute. The big reunion of 1909 was held in that particular year to celebrate our graduation and happened to be five years after the first reunion. When 1914 came around, it was thought best to hold over the "big reunion" until 1915, so that it would thereafter always come on the "5" and "10" year. It was hoped and expected that the New Technology would by that time be ready and would offer a real reason for a glorious celebration. In the meantime, events had so altered conditions that it seemed inadvisable to hold the All-Technology reunion this year. The Institute buildings could not possibly be finished, business conditions were such as to seriously affect any general gathering, and furthermore a great many men not in the immediate vicinity of Boston would probably prefer to invest their money this year in a trip to the Panama-Pacific exposition. Therefore the Alumni Council voted that the big reunion should

not be held in 1915. As the '09 men present were of the opinion that it would be best to hold our class reunion along with the All-Technology celebration, it was decided to again postpone our class get-together until next year.

Thirteen fellows—Jim Finnie, Harold Sharp, George Haynes, Herb Stiebel, George Washburn, Karl Godfrey, H. H. Hoyt, W. W. Clifford, Henry Spencer, Lynn Lawrence, Lynn Loomis, Carl Gram and Horace Clark—gathered around the '09 table at the Tech Pops on June 8. Although Herb Stiebel had just returned from Bingham Canyon, Utah, "Clarkie" drew the long distance prize by blowing in from up in the Andes Mountains of Bolivia, South America. Several of the fellows promised to send in "experience" letters, but up to the time of going to press none materialized except a card and enclosure as follows: I really intended writing a letter to you but after pondering about what to say, decided there was too little of interest in the hum-drum life of yours truly to waste a stamp. But here is a check for two bones to apply to some unpaid dues which is really more essential than a bunch of gossip about yours truly—Herb Stiebel (1897 Beacon street, Brookline, Mass.)

Charles R. Main reports the birth of Charles T. Main, 2d, on April 16, 1915, at Great Falls, Montana. If the name and the atmosphere in which Charles T. 2d was born, have anything to do with the future of the youth, he ought to be some engineer. Charles R. says the work on the big dam is nearly completed and he is looking forward to being back in Boston about next fall.

1910.

CHARLES E. GREEN, *Sec.*, 63–75 Pitts Street, Boston, Mass.

The *Engineering News* has the following item:

Eugene O. Christiansen, Assoc. M. Am. Soc. C. E., has been appointed engineer of the Special Tax Commission of Cambridge, Mass. Mr. Christiansen is a graduate of the Massachusetts Institute of Technology and was recently a student of the Harvard Graduate School of Business Administration.

1911.

ORVILLE B. DENISON, *Sec.*, Hotel Standish, Worcester, Mass.
HERBERT FRYER, *Asst. Sec.*, 1095 Fellsway, Malden, Mass.

Another school year has rolled by and we are now entered upon our fifth year out of school. This means that next June will be the occasion of our five-year reunion, and it is not too early now to begin to think about it. Possibly before this article appears in print a preliminary publicity campaign will have been launched by Fryer and the writer, but at any rate every live 1911 man wants to begin to save his money and make definite plans to be in Boston in June, 1916. In addition to being our five-year reunion, it is also

the occasion of the monster alumni reunion, postponed from this year. This means that it is absolutely up to 1911 to make the best showing of any of her "twentieth century" rival classes, both in numbers and enthusiasm. You will hear more of this from time to time—in future issues of the REVIEW and by individual letters.—Quite a few marriages since the last issue of the REVIEW: Burgess Darrow, gymnastic star and electrical engineer, whose perpetual smile always cheered us (he being the only man known to have made Bert Fryer even smile when he was on thesis work) was married March 15 to Miss Florence Jennette Flickinger in Akron, Ohio. B. is back with the Goodyear people again and the young couple are living in Akron.—On the 3d of April George Estes, Course II, was married to Miss Dorothy Plaister in Dubuque, Iowa.—Ralph Doble, a former member of the class, now a member of 1912, was married on April 6 to Miss Florence Agnes Dearing in Braintree. Among the ushers was Kenneth Robinson, '11.—Another April wedding was that of Gardner C. George and Miss Gertrude Ellsworth Morgan on the 27th of the month at Haverhill. The young couple are now at home in Winthrop, N. Y.—On the 3d of May William S. Burleigh, II, was married to Miss Dorothy Trowbridge Baird in Cochituate, Mass. They will be at home at 22 Merrymount avenue, Wollaston, Mass.—Two days later Bancroft Hill, another '11 man, was married to Miss Frances Moale McCoy in Baltimore, Md.—Up here in Worcester one of the early June weddings was that of Fred H. Daniels, Course VI, and Miss Eleanor Grace Goddard on the 2d of the month. Mr. and Mrs. Daniels are to make their home at 2 Regent street, Worcester.—H. S. Smith's marriage to Miss Mary Bishop Parker is scheduled for the 30th of June in Bay City, Mich., and will doubtless have taken place when this article appears.—It certainly goes without saying that all of the above young couples have the heartiest congratulations and good wishes of all of us in their married life.—The following clipping from the Toledo (Ohio) *Blade* of March 27 will be of interest:

Mr. and Mrs. Ben Huger Rutledge of Charleston, S. C., have announced the engagement of their eldest daughter, Eleanor, to Ralph T. Hanson, naval constructor, U. S. N.

Mr. Hanson is the son of Mrs. Nathaniel L. Hanson of the Belvedere and is a graduate of the U. S. Naval Academy and the Massachusetts Institute of Technology, a member of the Army and Navy Club of Washington, and of the New York Yacht Club. Mr. Hanson has been stationed at Charleston for the past two years.

—Mr. and Mrs. Royal M. Barton of Worcester are in line for hearty congratulations upon the birth of Henry Ayer Barton on May 31.—The Hartford (Conn.) *Courant* of March 30 contained the following item:

Milton E. Hayman of Boston, a graduate of the Massachusetts Institute of Technology, and an architect of experience in Georgian and Colonial work, has entered the office of Edward T. Hapgood, architect, in the Connecticut Mutual Building.

—Still another item of interest to 1911 men, this one from the *Engineering Record*, under date of April 24:

William J. Orchard has resigned as assistant sanitary engineer with the New Jersey State Board of Health to become associated with Wallace & Tiernan Company, Inc., manufacturers of chlorine control apparatus and sanitary engineering specialties, 136 Liberty street, New York City. Mr. Orchard is a graduate in sanitary engineering from the Massachusetts Institute of Technology and previous to his connection with the New Jersey State Board of Health he had been in the engineering departments of the Massachusetts State Board of Health and of the Metropolitan Water and Sewage Commission of Massachusetts.

—Harold A. Smith, Course II, has been appointed master mechanic of the Palmer Mill in Three Rivers, Mass.—A letter recently received from Roger P. Loud, Course VI, reveals the fact that Roger is now general manager of the Vinalhaven Electric Company in Vinalhaven, Maine. To use Roger's own words:

This is a brand new company with a brand new station. It is completed enough to be running but still with a very small load. Coming good though, despite business depression.

He also says he is still leading the single life.—The letter from Ray Lord in the last big issue of the REVIEW, while interesting to all, evidently touched a tender spot in the hide of one of our members, namely Bert Fryer, witness the following letter:

Have been reading the REVIEW, and there are some things in the *Bingville Bugle* news which I want to take exception to. F'r instance: It seems to me that Ray Lord is getting rather cockey. Of course that baby of his might be some baby for a girl, but I will leave it to you if Fryer, Jr., isn't some infant as a boy.

For Lord's information, you might say that at one year his nibbs was riding a bicycle, and we have pictures to prove the fact; and that at one year and three months he is sniping father's cigarette and cigar butts, which certainly shows progress. There are other things which I do not want to mention, but believe me, when it comes to comparisons, "they ain't no such animal."

The only way I can see to settle the dispute, should Mr. Lord (emphasis on the Mr.) care to take up such things, his hat being in the ring, is to have the two midgets fight it out themselves at the five-year reunion; and believe me, Ignatz, Jr., is getting some course of instruction.

Address Changes

William S. Burleigh, 22 Merrymount Ave., Wollaston, Mass.—Mitchell Coffin, care of S. M. Ryder and Son, Niagara Falls, N. Y.—Burgess Darrow, 58 East Cuyahoga Falls Ave., Akron, Ohio.—Gardner C. George, Winthrop, N. Y.—M. E. Hayman, care of Edward T. Hapgood, Connecticut Mutual Building, Hartford, Conn.—H. G. Jenks, 34 Upland Rd., Melrose Highlands, Mass.—Roger P. Loud, Vinalhaven Electric Company, Vinalhaven, Maine.—Harold A. Smith, Three Rivers, Mass.—A. Benjamin Werby, Rooms 38–40, 19 Park Pl., New York City.

1912.

RANDALL CREMER, *Sec.*, care Snare & Triest Company, Cruz Grande, Chile, So. America.
JOHN E. WHITTLESEY, *Asst. Sec.*, 10 Regent Street, W. Newton, Mass.

I suppose like everybody else now-a-days you want to read the war news first. It isn't very much, but quite interesting.

George Bakeman, while working here in Boston, found an opportunity to go to Servia with the Red Cross. He didn't even hesitate but just picked up his things and went.—I had an interesting letter from H. R. L. Fox of Jamaica, W. I. He had had a very good position as superintendent of construction. However, when the war started, everything stopped so he enlisted in the English army. A few days ago he wrote in the following:

Since writing you I have been gazetted senior lieutenant of the Royal Engineers in the British army and have been ordered to proceed to the front on Wednesday of this week (May 26, '15).

Let's give him our best.

Kenneth Weeks, who is now fighting with the Allies somewhere in the northern part of France, in writing to his mother, tells of the wonderful endurance of the French troops who are fighting in the trenches, and also of their decided victories over the German forces.

Allen Weeks, who lives in this city, is also in receipt of a letter from his mother in Paris, in which she tells of the endurance her boy, Kenneth, has gone through. In her letter she tells of seeing the suffering soldiers, and how the company that her son is a member of has been diminished 20, and that but 200 of the original 300 in the regiment are alive.

Mrs. Weeks tells of seeing the injured, and how one of them told her her son had been wounded. She tells of the cowardice of the German troops, and how they fell back when the trenches were taken, according to a story told her by one of the men who was in Kenneth's company.

She says that in the letters she has received from her son, he describes the front as a regular hell, and states that it is necessary for the soldiers to be at the front for 48 hours at a stretch, and then after that they are only placed at the rear of the lines, and used as an emergency force.

Following are two of the letters received by the mother from her son, Kenneth, and which she in turn has forwarded to her son, Allen, in this city:

I now have a moment to write you. As I let you know by card we have been fighting hard and fighting victoriously. Sunday, the 9th, we took the German trenches, pushed on three kilometres and captured La Targette as well as half of Neuville St. Vaast, we fought 48 hours and were then replaced, going to the rear as reserve, that is what was left of us. Over half the regiment is gone but we have been *cite a l'ordre de l'armee* and I believe I have a special mention too.

Not a scratch—that seems miraculous to me and in such a hell of fire and shells. We are now several kilometres in the rear for a few days' repose. You will find an account of the whole action in the papers of the 14th. We fought well and I am happy.

Some day I will tell you all about it. I only hope the advance goes on and that we will finish it soon, as no doubt we will in a few days. Thank you for your letter about the *Lusitania*. I am doing my best to revenge that and all else. Do you not understand me, now, and what I engaged for? I don't think I care about the aeroplane service, dear. I will stay with my regiment. Do send me cigarettes, lots of them.

I have nothing now, money is of no value; will write again if I can.

* * * * *

I feel perfectly rested today and very happy. We expect to leave very soon again for the firing line and I am fit and quite ready. There are only some 1,800 left out of our regiment of 4,000, but there is fighting stuff in us just the same. I am proud of our regiment. Since fall no such advance has been made as we have gained. The legion has done well, and I will always remember the taking of Neuville St. Vaast. I have been mentioned *a l'ordre du jour* which means, I believe, first class soldier's stripes and perhaps a medal. I don't really know why, simply for being cool perhaps for I did no extraordinary act of bravery. I take anything here where I would have refused before, because now, it is earned and then it was bought. I have at last succeeded in finding something to eat, and we have tobacco again, so all's well. I have sent you some papers to keep for me and press notices. Pray for our future success, dear, and that I may fulfil your will.

We had a very enjoyable evening Tech Night at the Pops. Announcement of several more large donations to M. I. T. was made. An interesting entertainment of which our versatile Kebbon was author, together with the music and the and-so-forth, all contributed to the good time. Randall Cremer was there on his wedding trip. "Randy" was married on June 5 to Miss Dorothy McDowell of New Rochelle, N. Y. He came on all the way back from Chili; has gone back again for another year and a half. Manning, George Robinson, Albion Davis, Springall, Clark, who happened to be in town on his way to California, "Charlie" Carpenter, Mabbott and "Tod" Sloan were some of the others present. "Charlie" Carpenter, I understand, has announced his engagement and is to be married soon.

John Hall, Course XI, was married on April 20th to Miss Lillie D. Worden at Long Branch, N. J.—Harold Mitchell has left the Goodyear Tire & Rubber Company. He writes he is "still an old bach." Sounds suspicious. He is in the experimental department of the Racine Rubber Company, Racine, Wis.—B. H. Morash left for Japan last month. He will be located there with the General Electric Company.

1913.

F. D. Murdock, *Sec.*, University Club, Hartford, Conn.
A. W. Kenney, *Assoc. Sec.*, M. I. T. ,Boston, Mass.

The only thing that makes the editing of class notes an endurable occupation is the enthusiasm with which the class provides a continuous and bountiful supply of news for the matrimonial column. Without that department there would be no suitable way of

beginning the notes and nothing to talk about at the class dinners. But as long as the class keeps up its present splendid work, no one can possibly complain.

Once in a while a bit of ancient history is brought to light. D. H. Hilliard, XIII, has just presented his credentials for entrance to this column, although his marriage to Miss Marie Alexine Lalumiere took place December 3, 1912, and they now have a small daughter, Marie. Hilliard is in the shoe business with his father in Haverhill.—P. LeRoy Flansburg, VI, is another man who couldn't keep his good fortune away from his classmates any longer. His marriage to Miss Zora Rockwood took place on December 19, 1914. —Still another "old married man" is E. M. Bridge, IV, to whom Miss E. L. Chambers was married on September 4, 1913. If there are any other old-timers, the secretaries would be very glad to hear from them. If desired, such information will be considered strictly confidential, but it is wanted for the class records. —Coming to more recent times, we received the announcement of the marriage of Miss Alice Winifred Hodgdon to Gardner Alden, X, on May 11. At home after August the first, 105 Cross street, Malden.—From Gothenburg, Neb., comes the news of the marriage of Miss Caddy Winifred Jennings, on June 2, to Roger Williams, V, who is now in the research laboratory of physical chemistry at the Institute. It seems Roger was carrying on a little research the boys didn't know about.—Several other men are started on the happy path. Back in April, the engagement of Miss Gladys Fowle Parker to Jimmy Russell, II, was announced; and a few days later the engagement of Miss Marion Spaulding to P. B. Terry, X. Miss Spaulding is a graduate of Columbia, '14, and professor of household arts in Middlebury College; so it seems Phil isn't running any chances on hard biscuits and tough pastry.— Early in June, we received the cards of Miss Anna Horton Whittelsey and Lester Hoyt, V. Miss Whittelsey was at the Institute one year as Dr. Gill's assistant. Hoyt came back from Buffalo, where he is working for the Larkin Company, to receive his master's degree this June.—There are also the glad tidings of three more class babies. Bob Bonney, X, is the proud father of a son, Reed Bonney, born May 24, weight 10½ pounds.—It was also announced that Clara Louise Brett was born April 7, and we hear that Pop Bruner has become a real "Pop." Surely our class must be one of the happiest, as it is the best.

A number of reply slips have come in since the last issue of class news. The following is from C. D. Swain, II, ensign, U. S. N., on board the U. S. S. *Virginia:*

I'm very sorry not to have been able to keep track of what the class has been doing, but since I left M. I. T. I have been in Boston only a few times. I should be only too glad to welcome any of the class who happen to see the old *Virginia* in any of the numerous ports at which we touch. Perhaps I may get time to write you a few words about what I am doing, but just at present my working day is twelve hours plus half the night, as we are preparing for target practice.

—Another invitation to '13ers comes from Tong, Pao-Tung, I, who is assistant hydrographer at Shanghai. He says:

Should any of you chance to pass through town, just drop into my office, and I will show you some of the stunts. There is a fine Tech bunch in Shanghai; already we have a Tech club and the fellows meet on the first Saturday in the month at tiffin at 12.30 p. m., at the Carlton. We always have a jolly good time together, as the Englishmen out here would say.

—Manuel A. Hernandez, I, whose entrance into international commerce we mentioned in the last number, is becoming quite a famous authority on South American trade. Under the head "Hosiery Market in South America," the *Philadelphia Enquirer* prints the following:

In an address delivered before the Philadelphia Hosiery Manufacturers at their monthly dinner and meeting, held last night in the Manufacturers' Club, Manuel A. Hernandez, son of the Mexican General Hernandez, who was governor of Puebla and commander of the southern forces, told the members that there is at present a wonderful opportunity for them to establish successful trade relations with South American countries.

Mr. Hernandez, who has opened an office in Rio Janeiro, Argentina, acts as representative for American manufacturers, introducing their products in that land. He has made a thorough study of trade conditions there and so impressed the Philadelphia merchants with his knowledge of them that several of them tentatively engaged him to represent them.

Mr. Hernandez, who is a graduate of the Massachusetts Institute of Technology, came to this city yesterday for the express purpose of addressing the hosiery men. He has offices in New York city and in Madrid and Barcelona, Spain, as well as in Rio Janeiro.

"The attitude of American hosiery manufacturers in not going after the South American trade," he said, " is incomprehensible to me. There is a rich harvest to be reaped there for the merchant who will push his product intelligently and follow the ways of business both in Latin and South America. The people have money and they need your products. What more is necessary to insure success? Nothing, except that you bring what you have to sell to their markets."

—Harold Rand, I, has given up railroad work in Virginia and is now in Boston at home.—Our eyes are gladdened by a note from Al. Ranney, I, who still seems to be as cheerful as ever:

I've got a lot to write and will send you a long letter soon. At present, I'm working night and day and haven't had a bit of leisure in two months to write anyone. The payment of class dues, however, is part of the business of life. Hard times are using me fine. Engineering got a little slow, so I took up contracting with considerable success. At present am completing a bridge contract with Bexar County for a seventy-foot flat arch reënforced concrete over the Meding River, fourteen miles from San Antonio. I've two other ventures that look mighty good. More about these when I write that letter. Greetings to all and success.

—F. T. Morse, I, writes from Chicago, where he is assistant engineer on the C. R. I. & P. Ry. He says:

Everything is 50–50 with me. And right now let me give you a tip that you furnish the most reading for the money of any of the classes and keep up the good work. It is interesting even if we don't all get a chance to write a *line a day* to you about our happenings. Hope to be with you in 1916 if I have good luck. Just keep shouting for '13; we're all for you.

Now wouldn't that cheer up any secretary?—A. M. Loeb, II, has finished half of his two-year course on cotton, which he is studying at the Philadelphia Textile School.—E. Bruce Cotton, II, is also in Philadelphia, with the C. H. Wheeler Manufacturing Company.—Henry Lamy, II, is a private in the French army. His note is dated March 17 at Paris; and he was then just leaving for the front the second time.—A few exceptional Course III men who haven't gone to the ends of the earth have been heard from.

Thomas S. Manley, III, is in Duluth, Minn., engaged in the manufacture of Duluth water-heaters with emphasis on the selling end of the business.—Raymond C. Bergen, III, is assistant manager of Plant Number 3, Roessler & Hasslacher Chemical Company, Perth Amboy, N. J. That sounds good.—Course V men will be delighted to hear that Walter Hughes during the past year has been assistant in chemistry at the University of Colorado. The glory of the Institute has departed, but think of Colorado!—Joseph Oppenheim, also V, has gone into manufacturing and is manager of the Royal Manufacturing Company at Gloucester.—As sales engineer, V. G. Katgenstein, VI, represents the Lincoln Electric Company, Cleveland, Ohio.—Stuart J. Eynon, VI, is electrical tester with the General Electrical Company, at Lynn; and H. N. Carlson, VI, is head of the meter and testing department of the Union Light and Power Company, Franklin, Mass.—Our two biologists are still busy. E. E. Smith, 2d, VII, expected to spend the summer on the Public Health Service yacht *W. D. Bratton*, which is to make a survey of the waters along the North Atlantic Coast; and Max Lewis, VII, has recently connected with the Lederle Laboratories in New York City, where he will do bacteriological work. He reports that both he and Mrs. Lewis are keeping cheerful.—In the party selected by Professor Sedgwick to help Serbia fight the typhus epidemic, our class is well represented. A. W. Buck, VII, G. W. Bakeman, XI, and Eliot H. Gage, XI, are all members of the expedition, which sailed on May 15 from New York. Our hats are off to them for their courage, and our best wishes go with them. Newspapers report that typhoid is now under control.—Our Course IX man, Robert A. Lesher, spent the last year as student at Columbia University.—The last news of Hez Holmes, X, was that he was solicitor for a paper company; now he turns up in New York City as treasurer of the Japanese Floral Perfume Company, Inc. Quite a change, but it must be good. He says:

> I am engaged in the manufacture and sale of perfumes and smell like a "Hun Wedding" when I return home in the evening, but it is good fun.

Hez always was strong in organic chem.—Norman Clark, X, is another paper man who, as he says, couldn't keep away from the high lights any longer, so Clarky is in the paper game in the big city.—One XIII man speaks up, W. G. Loo, who is going back to China this summer.—L. J. Renfrew, XIV, says he is now a full-

fledged Helliern; he is working in Hellier, Ky., as chemist. It may be all right, but doesn't sound very well.

The informal dinners at the Crawford House, Boston, on the last Thursdays of the month have been kept up through June. The attendance has varied from eleven to twenty-three, but they have all been good times, and there is always some news to be circulated. Hersom, VI, is on the Rand Committee and served notice on the men that now they have representation they are liable to taxation. News of weddings, engagements, and pictures of infant wonders fill up the time between courses.

The Pops this year brought out a good crowd of '13 men who were able to make themselves heard above the tumult that any other class could make. Over fifty of the class were together, and even married men like Hap Peck and Bunny Brett (we were going to add Bill Mattson but stopped just in time) came down on the floor. Strangers like Roger Freeman, VI, from Providence (he's getting thin, he says, but you need to see him to understand) and Geoff. Thayer, VI, from West Virginia were there, and it was a joyous reunion.—Since January, Geoff. has been doing electrical engineering work in the construction and maintenance line for the Norfolk and Western R. R., Bluefield, W. Va.—R. K. Wright, VI, who was with Gibbs & Hill, with Geoff., has left them and now is at Petersburg, Va., doing electrical construction for the du Pont Company.—Leo A. Hartnett, IV, was at the Pops after a long absence from class affairs. The fact that his headquarters are at City Hall, Boston, sounds a bit like a politician at first, but it's all right. He's a heating and ventilating expert officially rated as draftsman in the school house department, and is willing to show anybody who doesn't believe that's a good line to follow.—Bill Mattson, I, came down on the floor a few minutes to break the news that he was going to Ansonia, Conn., the next week to help out the Aberthaw Construction Company.—Since last March, Arthur L. Townsend, II, has been inspector with the Massachusetts Bonding and Insurance Company with his home office in Boston. He travels over the New England district, and, like all insurance men, thinks there's nothing like the insurance game.—O. C. Walton, VI, represents Holmes and Blanchard Company of Boston, dealers in machinery for sifting, crushing, grinding, etc. Business allowed him to get to Pops, however, and he looks prosperous.—If any of our newly-wed members are looking for houses around Boston, they shouldn't forget that we have a representative right in that line; A. L. Higgins, VI, is in the real estate business for himself at 928 Old South Building, and would be delighted to be of service.

Several of the men have new teaching positions for next year: F. H. Kennedy, IV, is going to Throop Institute, Pasadena, where he will teach drawing, mathematics, and surveying just to show what an architect can do in the variety line. Of course, this teach-

ing in California is merely an excuse to get out to the fairs; and Fred expects to cross the continent in one long joyous auto trip, having recently won the price of the gasoline in a design competition.—George Clark, II, has been raised to the dignity of instructor in mechanical engineering at the 'Stute for next year; and Joseph C. Mackinnon, VI, will be in the physics laboratory under Professor Page.—Back in April, H. G. Shaw, II, began work in New Haven with the Winchester Repeating Arms Company, and so had to miss the rest of the monthly dinners, which he would otherwise have attended. The Boston crowd was sorry to lose a regular; but the manufacture of arms ought to be a prosperous business now.—Alex. Pastene, X, is doing his best to "beat the Dutch" by making explosives for the Allies. Alex. was around the 'Stute for a few days, having left the West and the peaceful cotton-seed industry for more exciting things in the East. It is with great regret we must inform the class that he has shaved his moustache.—John W. Livingston, X, has been with the Park Davis Company, manufacturers of drugs, patent medicines, etc., since last fall. In his letter from Detroit he describes himself as serenely cheerful and actively engaged. Doubtless "Livie" is still beating up square-heads, a favorite occupation of his.—M. W. Christie, I, was seriously ill this spring with pneumonia, but by this time has doubtless completely recovered.—Joe Strachan, another I man, is back in dear old New York City on the New York Public Service Commission. We all knew they needed a good man.—Walter Muther, I, arrived at Pops to say goodbye to everybody; and he's off to Colombia, South America, having left the firm of D. C. & W. B. Jackson. Walt certainly chose a poor place to die, but it's all a matter of taste. So much for table-talk. Some real substantial literature now follows in the form of letters from some of our gifted classmates.

The secretary used to class our silver-tongued Eddie Hurst, II, with one W. J. Bryan, but he has been two long silent to sustain that comparison. Attention, classmates, to Eddie's first official alumni utterances; we quote from his recent letter:

> You (the secretary) certainly have a very smooth line of coax talk, and it reminds me of the gentle cooing of that angelic dove, Gene Macdonald. . . . I hear from Lammie now and then, you know whom I mean, the high brow Australian who so loved to liken Harry Peck unto Napoleon. Lammie's letters fairly bristle with nitro-glycerine excrescenses of rare charm and grace. He is fighting for God, King and country, and if he has shot all the Germans he says he has shot with shot, I would go out and get "shot" myself. [Secretary's note: Eddie is English, too.] His rise along military lines has been startling. He is now assistant adjutant to the admiral of the Australian Navy Field Artillery Corps, and he is an adjutant who adjusts adequately all the accidents between the admiral and the admirers (female) of the admiral's assistant adjutant. (Perhaps you understand why the good Dean Burton excused me from that course in military drill.)
>
> I have a long letter from Custer, you know whom I mean, the Course II man who invented a steam meter thesis which he sold for so much cash. Custer is doing well and is now an inventor of considerable activity, nothing Edisonian of course, but then distinct evidence is with me to show that he possesses rare mental perception.

For instance, his latest development is a wonderfully cute little invention, which he calls a Custergraph. This interesting mechanism, as its name implies, is a device for dividing graphically custard pies into any predetermined number of absolutely equal parts, thus saving, and perhaps eliminating entirely, quarrels among the children who have in the past not received an even share of the delicious pies. This device, strange to relate, works equally well on other pies besides custard, thus illustrating the universality of Custer's cunning, cutting contrivance.

Since leaving Boston, Dame Fortune has dealt very kindly with me and I continue *to continue* as an expert promulgator of the inner intricacies of efficiency engineering, "a *large* volume *low* cost production expert." In a few words we reduce costs, increase output, increase workmen's earnings etc., as per all the excellent rules and regulations laid down in the dividend paying course in industrial engineering, Course II, fourth year, second term, eleven Eng. B, Professor Park and assistants. . . . May all the good '13 men wax fat and rich, and may we all continue to continue a happy band of warriors doing the best of the world's work the very best we know how. When, oh when, do we all meet again?

It is out of the question to pass by without comment such an effulgent effusion, as Eddie himself would probably call it. First, we must point out the *facts* in Eddie's letter. It is indeed, pleasant to hear of Lammie's bravery on the field of battle, and also to learn that it is left to a classmate to remove the last objection in the world to big families. Shake, Custer, old man, you're there! As for the balance, what better advertisement of the English course at Institute could have been written? How such adherence to the cardinal trinity of unity, coherence, and emphasis will delight Professor Bates, and how timely is this appearance of the final proof of his success as a teacher, on the eve of his retirement.—Charles H. Strange, who pulled on the freshmen tug o' war, left the 'Stute after our first term and later went to Sheffield Scientific School, and graduated there in 1913. He has been in India for the Standard Oil Company and writes:

I am much sour-balled upon these tropical propositions to such an extent that I am leaving India around the first of May. I don't like the Far East idea because of the unhealthy conditions, the enervating effect of the tropics, the high expenses of living, the unwholesome social life, and the fact that children have to be sent home to be educated. I really do hate to leave my position as I have been transferred to Madras, and placed in charge of the accounting department. I had a fairly good time in Calcutta in spite of my detailed grievances. When the war broke out I joined the Calcutta Scottish Volunteers, an organization formed at the commencement of the war, for local defense. The only service I had to do was to patrol the native quarter during the festivals. During the sham skirmishes I was a motor cycle scout. I was offered a commission in the British army, which I was sorely tempted to take, but decided that little old U. S. A. might need me some day.

Madras is more healthy than Calcutta, as it is right on the sea, while the latter is surrounded by rice field swamp land, and every one has a touch of malaria, off and on, known as Calcutta or Dengue fever. One of the joys of this country is as follows: I am living in a "Chummery" with three Britishers. The other night we returned to our bungalow, I turned on the light in my bedroom and there was a damnable Cobra, about four feet long. I soon polished him off with a golf stick; but those things are all right if you see them first.

Thanks for your tip, Strange, now we prefer to stay right at home, and kill with our golf sticks nothing more dangerous than the perfectly healthy grass under the golf ball.—Lester F. Hoyt, V, a patron of our matrimonial column this issue, is with the Larkin Company of Buffalo. He writes:

I have a position which I find quite enjoyable. I am the food chemist at the Larkin Company and have entire charge of the food products handled by the company, now totaling over 300. This keeps me occupied nine hours a day, five and one half days a week, fifty-one weeks in the year; but naturally with such a number of food products there is a great variety to the work, and new problems are continually turning up. The company is very liberal towards its chemists and installed a spacious and excellently equipped food laboratory last summer. The company maintains no less than seven laboratories and employs about fifteen chemists.

It is pleasant to read newspaper items like the following:

William deY. Katzenberger, a power engineer of the sales department of the Brooklyn Edison Company, received the Henry L. Doherty gold medal. This medal is given each year for the writing of the best paper on any subject relative to the electrical industry, the condition of award being that the paper be presented and discussed at a meeting of one of the association's (National Electric Light Association) sections. Mr. Katzenberger's paper "Advanced Methods of Obtaining Big Power Business" was delivered before the Brooklyn company section of the National Electric Light Association at its October meeting.

Yes, that is Bill Katzenberger, VI, in the limelight, and we are not surprised at this early success. Good work, Bill!—F. H. Pendleton, Jr., V, is back in Boston, working as chemist for the New England Bureau of Tests. "Pennie" was in Springfield, Mass., working for a while, just long enough to contract a good case of typhoid, from which he was fortunate to have an excellent recovery—Gene N. Burrell, I, writes:

I am employed by the Inter-county River Improvement and at present am working near Pacific, Washington, as levelman on a piece of construction. The project covers about eight miles of river work and consists of clearing, removing driftwood, straightening, widening, dredging and protecting the banks of the White Stuch and Puyallup rivers. The chief engineer of the project is Mr. W. J. Roberts, a former M. I. T. man, who like many others of the same school are directing the big engineering feats.

Burrell spent one year at the Institute, and got a degree, and he is certainly a great booster for Tech.—H. M. Lawrence, III, continues to "bang around" the country, getting interesting as well as valuable experience. "Lawrie" is a regular Burton Holmes, for writing travelogues. He writes:

I have been jumping around a bit. I stayed down in the Mormon country until January, when I had a chance to go on an examination of the Brittania Mines in British Columbia with Mr. H. Rogers, Tech '90.

In British Columbia I remained about six weeks. I first had charge of a bunch of Japs who were preparing the samples for assay. Later I went underground and bossed a squad of miners who were sampling. Mr. Rogers had five men with him, one a Tech man, Goodwin, III, 1912, the others being from other schools. The trip was a pleasant one but finished the latter part of February. It was fortunate, too, for shortly after we left there was a snow slide, which wiped out most of the camp. It arrived off the place where I stayed, and you sure would have had a black border to put round my name in that 1913 five year book. . . . Here I am comfortably settled (in Kennecott, Alaska) as assayer for the Kennecott Mines Company. Comfortably settled is right, for we have a fine staff house here: shower baths, electric lights, a victrola and a living room large enough for dancing. Alas though, there are only two unmarried dames here and only seven altogether. Maybe a few of the extra chickens of Boylston and Tremont streets wouldn't come in mighty handy here.

As for scenery, we have lots of it. In fact we have more scenery and sky than anything else. I shall not try to describe the snowcapped mountains or the frozen waterfalls and creeks, but will tell you that I am living only *200 yards* from an active glacier; three miles wide and fifty miles long.

B. F. Howland, IV, in Honolulu notes:

I keep plugging along, though as you know, free sugar threatens to give these island possessions of Uncle Sam a staggering blow, with the result that the moneyed interests are backward about putting new capital into construction work.

Max Harrington, I, is in New York City applying "Pa" Allen's tables to the solution of track work problems in connection with the third tracking of the elevated.—Gene Macdonald, I, has a new job, with the American Bridge Company. He notes:

They are building one big bridge across Hell Gate. Mr. Starr, 1899, will be my boss. I don't see what I have to lose, but my life. The experience will be fine but it comes high, some 300 feet above the river. But I'll drink Moxie and try to hold on. I'll let you know what happens to me if it doesn't happen too quick.

"Pete" Howes, X, writes of his work with the Manufacturers' Light and Heat Company at Pittsburgh:

My work, so far, has been limited almost entirely to the engineering department. I have been busy devising filing systems for our records and teaching the field men to turn in intelligible reports of their work. It is interesting, enjoyable work, for the results show up nicely. At present my thoughts are chiefly occupied with a system for numbering and classifying a very complicated, many branched pipe line system in Pennsylvania, Ohio and West Virginia; my task here was to get out a better method than that of the Standard Oil, some order! It is rather early to say yet, but I believe that we have that system, but at what expense in matches and pipe tobacco!

Course I and XI men will remember very well Abdur Gorayib, I. He is now a soldier, serving as an engineer in the Military Construction Department in Damascus, Syria.—The announcement of the marriage of Walter E. Brown, XI, to Mildred F. Pike comes too late for the matrimonial column. They were married at Beverly, Mass., June 16, 1915. The class extends its congratulations and best wishes to you and yours, Walter.

Financial Statement for Year Ending July 1, 1915.

RECEIPTS:		
Cash on hand July 1, 1914	$313.64	
Interest	6.00	
Annual reunion and dinner	64.00	
Dues	186.20	
		$569.84
EXPENDITURES:		
Annual dinner, hotel and incidentals	$78.43	
Annual dinner, postals and printing	16.75	
Annual letter, printing and stationery	13.75	
Postage, mostly for annual letter	16.50	
Alumni Association, mailing, printing, and postage	25.06	
Boston informal dinners, mailing, printing, postage	20.57	
Printing, miscellaneous	1.00	
		172.06
Cash on hand July 1, 1915		397.78
		$569.84

Address Changes

The following address changes have reached the secretary since the publication of the *Register of Former Students:*

R. A. Allton, XI, care of Langdon Pearce & Samuel A. Greeley, 700 Karpen Bldg., Chicago, Ill.—A. R. Atwater, VI, 1239 N. Delaware St., Indianopolis, Ind.—P. W. Bartel, II, 303 Benefit St., Providence, R. I.—M. G. Berlin, M. D., care of City Hospital, Boston, Mass.—W. S. Black, Goodsprings, Nev.—Samuel Breck, Jr., XI, 238 Newbury St., Boston, Mass.—K. R. Briel, I, care of Childs Co., 247 W. 16th St., New York, N. Y.—W. E. Brown, XI, Box 96, Noblesville, Ind.—A. E. Burnham, VI, care of Aberthaw Construction Co., South Manchester, Conn.—J. H. Cohen, X, 16 William St., Salem, Mass.—K. V. Dey, I, 32 Weston Rd., Wellesley, Mass.—F. J. Evans, XI, 920 Chesnut Ave., Trenton, N. J.—E. E. Gagnon, II, care of Vermont Marble Co., West Rutland, Vt.—D. H. Gillingham, V, Central Fortuna, P. R.—A. W. Greely, Jr., XIV, care of M. of W. Dept., Phila. & Reading Ry., Harrisburg, Pa.—K. D. Hamilton, II, 135 Market St., Campello, Mass.—W. N. Holmes, IV, 114 W. 79th St., New York, N. Y.—H. G. Hoornbeek, II, Y. M. C. A., New Orleans, La.—P. V. Kelley, XI, 17 Summer St., Haverhill, Mass.—E. Kerr, II, 512 Massachusetts Ave., Boston, Mass.—W. C. Lovell, II, Pownal Lime Co., North Pownal, Vt.,—Miss E. Macdonald, V, 320 Cabot St., Beverly, Mass.—W. G. Mac Tarnaghan, IV, 56 W. 104th St., New York, N. Y.—T. S. Manley, III, 4760 London Rd., Duluth, Minn.—W. R. Mattson, I, care of Aberthaw Construction Co., Ansonia, Conn.—M. W. Merrill, XIV, Chuquicamata, via Antofagasta, Chile, S. A.—D. M. Moore, I, 9 Warren St., Taunton, Mass.—W. P. Muther, I, care of E. J. Walsh, Cali, Colombia, S. A.—R. B. Nichols, I, University Club, Los Angeles, Cal.—J. Oppenheim, V, 23 Riggs St., Gloucester, Mass.—P. P. Pizzorno, VI, 127 Newbury St., Boston, Mass.—E. D. Pratt, I, 176 N. Arlington Ave., East Orange, N. J.—H. M. Rand, I, 25 Conway St., Roslindale, Mass.—R. S. Rankin, VI, 141 E. 74th St., New York, N. Y.—Suburban Utilities Co., 519 Hicks Bldg., San Antonio, Tex.—T. J. Rice, II, care of Fay, Sanders Co., 76 Summer St., Boston, Mass.—A. F. Rich, II, Box 96, Billings, Mont.—F. D. Rich, X, care of F. Seaman, Inc., 120 W. 32d St., New York, N. Y.—B. B. Ringo, III, 430 W. 119th St., New York, N. Y.—C. B. Rogers, VI, care of Electrical Testing Lab., 80th St. and East End Ave., New York, N. Y.—Mr. and Mrs. N. M. Sage, I and IV, 142 Mansfield St., New Haven, Conn.—M. W. Salomonson, IV, 535 Newbury St., Boston, Mass.—F. S. Sinnicks, III, Manchester, Mass.—M. J Smith, VI, R. F. D. 32, Cassadaga, N. Y.—H. F. Sutter, I, 52 Pearl St., Springfield, Mass.—H. C. Thierfelder, I, 18 Horsford Ave., Rumford, R. I.—H. J. Von Rosenberg, IV, Hallettsville, Tex.—A. Vogel, IV, 44 Bradfield Ave., Roslindale, Mass.—E. Weller, VI, care of N. Y. Tel. Co., 26 Cortlandt St., New York, N. Y.—J. B. Woodward, Jr., II, 214 33d St., Newport News, Va.

1914.

CHARLES PARKER FISKE, *Sec.*, 99 Aspen Avenue, Auburndale, Mass.
ELMER E. DAWSON, JR., *Asst. Sec.*, 28 Washington Avenue, Winthrop, Mass.

Our first reunion was celebrated in a quiet but enjoyable way by about seventy-five members of the class. Thirty-two assembled first at the Hotel Oxford for a dinner, and the remainder gathered at Symphony Hall. "Buck" Dorrance, "Phil" Morrill, and V. M. F. Tallman were some of the out of town men present, Buck coming on from New Jersey and Phil from St. Louis. There were also several other men there from out of town. Dean Fales, who has shown rare judgment in deciding to cast his lot with our class, was there with bells on, fresh from the front and decorated with a real sheepskin.

The program was good and the fellowship better, so that a good time was enjoyed by all. The secretaries endeavored to ascertain if any in our class were responsible for the anonymous gifts which, together with other bequests, made Tech richer by one million dollars that night than she was a week before, but came to the conclusion that a few years must pass before the best of us do not miss such magnificent sums as were given.

Alden Crankshaw, X, who attended the dinner, was married on June 19 to Miss Bertha M. Chandler of Winthrop.—"Bull" Owen, VI, is now the proud father of two girls, the second being born about three months ago. He is now working for the Pennsylvania Bell Telephone Company in Philadelphia.—"Bill" Price, X, has been most industrious in his position at Cornell, Wis., so that his boss will allow him ample honeymoon time in August. His marriage to Miss Kathleen Fortin of New Bedford and Boston will take place in the former city during the first week in August. As Bill says:

> Take it from me it is some little job to attend to the furnishing of a house in a forsaken hole like this, especially when about all the time you have to do it is *between* six p. m.

—A real old fashioned romance is culminated by the announcement of the engagement of Miss Mary Kathleen Mumford of 32 Fenwood road, Brookline, to William A. Simpson, X. It seems that many years ago, when he was young and she was younger, he was the first one to bring her a May basket. It was also he who took her to her really first big party. And so it went along for some time, until his entrance at Tech forced him to be less attentive than formerly because of her home being then in New York. With his interests and work at Tech and her study in New York, their lives drifted apart and they lost track of each other for about two years. But chance brought them together again, and a renewed friendship resulted in the above announcement a few weeks ago.—"Bob"

Townend, another Course X man, sent in his intentions on March 25, just too late for the April REVIEW. His engagement to Lucy Maude Morse, daughter of Mr. and Mrs. A. G. Morse of Dorchester was announced on that date.

Gale Shedd, XIV, took no chances on letting his sheepskin step by, for when it was proffered him, he grabbed it with both hands.—H. A. Mayer is now with the Vannan Steel Casting Company, at Redondo Beach, Cal.—Crocker and Maier say they upheld the representation of Course XIV by butting into things at the Pittsburgh Convention, now some time ago.—Atwood and Horton, XIV, have decided to lay off for another year. Atwood, who is secretary of his course and right on the job, too, says he is going to be assistant in theoretical chemistry, while Horton is assistant in electro chemistry.—The Course XIV bunch would like to hear from I. Paris.

Roy Parsell, II, is now with the Winchester Repeating Arms Company—and probably very busy.—"Al" Devine, II, is with the Norton Company in Worcester.—Harold Wilkins, XIV, is still in the battery business in Cambridge.—"Del" Hiller, XI, finally decided to go to England and he is now inspecting food supplies in and about London for the army.—"Geo. T. Main" Crittenden, II, is doing some good work for the New York State Commission on Ventilation and writes as follows:

Bob Doremus worked on the Commission from December until June 1, when he accepted a position with the Oneida Steel Plate Fan Company. I have seen only one or two of the others in our class and then only for a minute.

—Charles Olsen, II, is taking the census in Salem.—A. G. Hanson, VI, who attended the dinner and reunion, drove a car to Ohio and back, and is now on the way to San Francisco in it.—"Hen" Merrill, XI, sailed from San Francisco on May 15 for Hong Kong, whence he proceeded to Canton, China, to accept a position with the Chinese government as assistant engineer in the lighthouse service.—"Peb" Stone, I, was in town several months ago on the way to Maine. The following is a part of a letter he wrote "Tom" Chase, which seemed too good to pass up:

You must have changed considerably since I left the States. I can't understand why your daily perusal of the society news did not reveal to you the fact that I had left Palm Beach for my hunting lodge. (I think we would have to hunt hard to find him in his present abode.—*Sec.*) All the *leading* papers remarked on my early departure for the woods to hunt an especial imported brand of swallow-tail pheasant which I brought across the "Pond" last season to stock my preserves. And as for geography and knowledge of this glorious state, it is surprising to find such ignorance in a man of your culture. Why, Ripogenus is *very* easy to locate. Moosehead Lake shows on most all the maps of Maine; and Greenville is a little spot at the south end of Moosehead on the largest size maps. Then when you get to Greenville, you are beyond the place where geographers stop; so you get into a sleigh and ride all day. Then at sundown, you are shovelled out of ice and unpacked from the sleigh and put into a measly hotel room along with some 70,000,000 odd varieties of bugs, lice and equally welcome parasites. You just make room for yourself among the aforementioned bed mates and they tell you it's time for breakfast. At daybreak you are again packed into a sleigh, and you leave the glorious Kokadjo Inn,

and, riding all day, arrive at our camp that second night. After these two invigorating days in an ice-cream freezer, you find that you have come about forty miles northeast from Greenville to the lower end of Ripogenus Lake. Of course, you are wondering what they do for conveyances in the summer time, but I can't tell you that much, for the oldest inhabitant has been here only eleven months and hasn't seen any summer yet.

The railroad folders say this is a beautiful country and I suppose it is for a man who is sore at the world and wants to enjoy the sunsets by himself. (The sunsets really are beautiful.) But it's not a particularly fine place to be neighborly. Between our camp (of about three hundred men) and Greenville there are not fifty inhabitants. Occasionally a camp of twenty or thirty woodsmen locate along here but those are all the people we see. At present the log drive (about 70,000,000) is going through so we see quite a bunch of river men. But if you imagine a summer camp with the hills, lakes, trees, etc., about five times as big and the people about fifty times as rough and scarce, you can picture in a slight degree this hole. An article in a Maine Central folder telling of canoe trips down the Allagash speaks of one place about five miles from here like this: "Corned-beef hash, piping hot, soda biscuits, and steaming tea—then the cook apologizes for what needs no apology." The guy who wrote that came through on an aeroplane. I have had so much salt horse I neigh instead of snore and so much sow-belly that I want to root in every mud hole.

—Charles H. Burns, X, has just accepted a position as assistant chemist with the American Vulcanized Fibre Company of Wilmington, Del.

"Nel" Baxter, II, recently left Boston to take up a position with the Holt Manufacturing Company in Peoria, Ill. They manufacture farm implements chiefly. He says:

This is quite a town but hot as the deuce and they say "the worst is yet to come." I haven't met any Tech men as yet but probably will after I get acquainted. The Holt people have another factory in Stockton, Cal., which is larger than the one here, but I expect this plant will grow in the near future.

Welton A. Snow, II, who is with the Goodyear Rubber Company in Akron, Ohio, says that he is very busy and has had practically no time off since his trip to Pittsburgh to participate in the alumni reunion.—"Don" Douglas, II, was seen at the Pops and said that he had just accepted a position as chief engineer for the Connecticut Air Craft Company, in New Haven, Conn. They are doing considerable work now for the government in the construction of air craft of all sorts. It was undoubtedly Don's good work at the Institute this last year as instructor in aeronautics that procured for him this excellent place.—George Beach, II, was here for junior week, in which he seemed to take pleasure in participating. He changed his position at that time and was on the way to Connecticut to his new place.—"Dick" Favorite, II, has just left the Factory Mutual to go with the Electric Boat Company at New London, Conn. Dick spent some time with this same company before he came to Tech, but it is said that he does not go back to them at the same salary he was then receiving. —"Joe" Beaudette, VI, is general manager of the Beaudette and Grohany Engineering Company.—"Kirk McFarlin, I, writes as follows:

I am enclosing you herewith a check for the heavy amount of $1, although I fear there is not much chance of my personally reaping any benefit. I find that as far as being near Boston is concerned, one might as well be in Honolulu as in New York. I was able to get back for a week this winter, but that looks like my only trip for a good while. I have been meaning all winter to send you a line, locating myself both as to azimuth and declination. According to Spof I have departed from the honorable roll of engineers, since I have gone into contracting, railroad work a specialty. It is pretty slow climbing, like most things that are worth while, but I find it mighty interesting, and more akin to business than forms of engineering.

"Art" Peaslee, I, says that everything is going along well on the dam where he is working, but that there is not too much excitement. —Charlie Fox, XI, has left with the Tech delegation to Servia to fight the typhus fever which has been such a scourge during this war.—"Chet" Ober, I, was in New York sometime ago preparing for a trip to Alaska for the government and has probably arrived there by this time.—Eric Mason, III, "Dutch" Schaurte, and Vignal have all been active in the war. We deeply regret to note the death of Vignal while couragously fighting in Flanders. Schaurte was wounded while in action in Poland and was awarded the Iron Cross for his bravery there. His wound proved less serious than was at first thought to be the case, and he is now driving one of the motor busses on or near the battlefield. Mason has confined his attention chiefly to South Africa, in which continent he lives.

Address Changes

H. A. Affel, Research Dep't Elec. Eng., Lowell Bldg., M. I. T., Boston.—P. F. Benedict, U. S. Coast and Geodetic Survey, Hull, Mass.—C. M. Berry, 138 South Common St., Lynn, Mass.—B. P. Crittenden, 608 W. 113th St., New York City.—F. E. Dunn, 230 W. 97th St., New York City.—H. T. Gazarian, 505 W. 122d St., New York City.—B. H. Hale, 34 Lincoln St., Hudson, Mass.—C. S. Lee, Box 457, Douglas, Ariz.—H. A. Mayer, care of A. W. Ellington, 223 Douglas Bldg., Los Angeles Cal.—H. F. Merrill, 2d, Canton, China; Care of Lighthouse service.—F. W. Osborn, care of Ajo Cons. Copper Co., Ajo, Ariz.—A. F. Peaslee, 84 Vernon St., Hartford, Conn.—L. M. Richardson, 72 Shelton Ave., New Haven, Conn.—L. Salomon, 400 State St., Brooklyn, N. Y.—E. I. Staples, 121 N. 50th St., Philadelphia, Pa.—H. L. Stone, Ripogenus Dam, Rokadjo, Me.—F. B. Barus, Morgan Hill, Santa Clara County, Cal.—A. C. Besosa, care of A. Besosa & Co. 59 Pearl St., New York City.—T. L. Chase, 652 Huntington Ave., Boston.—A. Crankshaw, care of The Gardburne Co., 11 Hamilton Pl., Boston.—J. D. Froom, Fernwood Farm, Billerica, Mass.—F. A. Ralton, 27 Whitman St., Lawrence, Mass.—H. E. Wicher, Emerson Laboratory, Springfield, Mass.—N. E. Baxter, care of Holt Manufacturing Co., Preoria, Ill.—J. A. Root, 1744 Broadway, Denver, Col.—O. C. Hall, 201 Arcade Bldg., Harrisburg, Pa.—A. R. Stubbs, 3 Hamilton Pl., Boston.—M. S. Maxim, 89 State St., Boston.—J. B. Chadwick, 2112 Prairie Ave., Chicago, Ill.—

A. W. Devine, 7 Airlie St., Worcester, Mass.—W. S. Hughes, Milton, Mass.—S. J. Spitz, 272 Merrimack St., Lowell, Mass.—R. L. Parsell, 52 College St., New Haven, Conn.—L. T. Forbes, care of D. C. & W. B. Jackson, 226 S. 11th St., Philadelphia, Pa.—D. W. Douglas, care of Connecticut Air Craft Co., New Haven, Conn.—C. B. Hurns, 109 W. 10th St., Wilmington, Del.

1915.

WILLIAM B. SPENCER, *Sec.*, 552 Main Street, Medford, Mass.
FRANCIS P. SCULLY, *Asst. Sec.*, 1802 Mass. Avenue., Cambridge, Mass.

It is with the greatest pleasure and feeling of brotherhood toward the Institute, the undergraduates, and especially the Alumni Association that we, the class of 1915, become alumni. The reception at the Pops on June 8 was superb, seldom is there ever shown such enthusiastic good-will as was bestowed upon us by the older classes. We feel sure that every one of us who was there will never be lacking in Tech spirit. One of the most gratifying things was that the alumni had confidence in us to such an extent that they let us do most of the entertaining. To those members of the class who could not be at the Pops, we can only offer our consolation for having missed the crowning event of our tremendously successful senior week.

We have left the ranks of undergraduates at a time unparalleled in the history of the world. Institutions, laws, and human life are believed to be undergoing a series of changes which only our descendants, hundreds of years hence, may just begin to realize. Men are suspicious of their neighbors on every side; some industries are flourishing, some are "on the racks." Things looked rather dubious for us to start in earning our bread and butter, but we believe, as we have been advised so many times, that opportunities lie before us which have never been equalled. We feel confident that we shall give only the best and that we shall meet our problems in life successfully as we have in our undergraduate work.

However, we must not forget that the best results will come only by "pulling together." We have our duties which must be done for our class, the alumni, and the Institute.

Our first opportunity of service is in joining the Alumni Association, and supporting its publication, the TECHNOLOGY REVIEW. Everyone in the class will receive the July number free; a glance through its pages will serve to show how indispensable the REVIEW is to every Tech man. Application blanks will also be sent to each man and by paying the $2.00 promptly you will receive all the remaining numbers of this year and a full subscription for 1916; also you will receive your membership in the Alumni Association for the coming year. Application blanks need not be endorsed,

and any man who has been a member of 1915, whether he has received his degree or not, is eligible to membership. Send the application and the $2.00 to Mr. Walter Humphreys, secretary Alumni Association, M. I. T.

Our next duty is to get squared with the class. The dues remain $1.50 per year and should be paid to the secretary before October 1, 1915.

It is the secretary's intention to organize the districts into which the members of the class have gone, and to have a man in each district aid the secretary and the assistant secretary in rounding up information and in arranging for reunions.

Keep in constant touch with the secretary. Let him know of any successes or other happenings. The other fellows are just as anxious about what happens to you as you are to hear about them. If you get any "dope" about any of the fellows, pass it along to us.

We were able to round up some information which may be of interest to you. Out of 141 names passed in at the Pops, 46 had positions and 6 were coming back for graduate work. Of those who had positions, 11 had been placed at the Institute as assistants.

Following is a list of the fellows who are placed and their addresses:

Richard O. Bailey, 6 Stone St., Oneida, N. Y.; with the Oneida Community, Ltd.—Douglas B. Baker, 115 Upham St., Melrose, Mass.; Student course, Western Electric, Chicago.—S. M. Baseter, 215 Kutger St., Utica, N. Y.; Student.—I. T. Bengston, 89 State St., Boston; with Coolidge & Carlson.—Donald Belcher, 112 Harvard St., Newtonville; assistant at M. I. T.—K. K. Boynton, Edge Hill Road, Edge Hill, Pa.; Western Electric Co., Chicago.—H. W. Brown, Concord, Mass.; M. E. Dept., M. I. T.—C. Howard Calder, 27 Austin St., Newtonville; assistant at M. I. T.—Charles A. Calderara, 12 East Union St., Milford, N. H.; Aberthaw Co.—T. Chang, 316 Huntington Ave., Boston; research assistant, M. I. T.—Alfred H. Clarke, 106 Strathmore Road, Brookline; with Bemis Bro. Bag Co., Boston.—A. A. Cook, 149 Glenway St., Dorchester; assistant in food analysis, M. I. T.—John N. Dalton, 7 Leonard St., Milford, Mass.; assistant in organic chemistry.—M. B. Dalton, 30 Deering St., Portland, Me.; assistant in C. E. Dept., M. I. T.—R. G. Dickinson, 7 Rexington Ave., Hyde Park; assistant at M. I. T.—Marvin T. Dodd, 221 N. Arlington Ave., East Orange, N. J.; with Hooton Cocoa Co., Newark, N. J.—George C. Eaton, 51 Witherbee St., Marlboro, Mass.; assistant E. E. Dept., M. I. T.—V. Enebuske, Public Service Commission, New York City.—Burnham E. Field, 87 Gainsboro St., Boston; assistant in analytical chemistry.—Francis C. Foote, Cooperstown, N. J.; at M. I. T.—W. R. Handrett, 39 Harvard St., Lowell, Mass.; with Goodyear Rubber Co., Akron, Ohio.—Otto Hilbert, 27 Franklin St., Holyoke, Mass.; back for graduate work.—J. C.

Holmes, Goodyear Tire Co.; Akron, Ohio.—Tho. H. Huff, Home: 2027 Upland Way, Overbrook, Pa.; assistant in aeronautic engineering, 1004 Beacon St., Brookline.—Gordon R. Jameson, 58 Beach St., Wollaston, Mass.; Simplex Wire & Cable Co., Cambridge.—Arthur W. Johnson, 13 Linden St., So. Boston; with F. W. Bird & Son, E. Walpole, Mass.—Ralph P. Joslyn, 80 Central St., Holliston, Mass.; U. S. Navigation Inspector, Room 206, P. O. Building, Providence, R. I.—Parry Keller, Home: 4a Pleasant Ave., Somerville; with Fayette R. Plumb, Inc., Philadelphia, Pa. —N. E. Kimball, Home: 25 Park St., Haverhill, Mass.; with Remington Fire Arms Co., Bridgeport, Conn.—Harry I. Lewis, Dolphin Jute Mills; Paterson, N. J.—Edwin C. Luce, Jr., Marion, Mass.; with Guy Lowell, architect.—G. Maconi, 76 Clark St., Newton Center; Aberthaw Construction Co. of Boston, temp. business address, New Haven, Conn.—Ralph P. Malcolm, 328 Morton St., Stoughton, Mass.; N. Y. Public Service Com.—J. S. McDowell, 319 Park Ave., Clearfield, Pa.; Student.—D. H. McMurtrie, 36 Lawn Ave., Portland, Me.; with Que. & St. Maurice Indus. Co., LaTuque, Que.—G. A. Palmer, with Lackawanna Steel Co., Buffalo, N. Y.—Millard B. Pinkham, 33 Waban St., Roxbury, N. Y. Subway.—Charles H. Rosenthal, 990 Dana Ave., Cincinnati, O.; assistant in chem. lab.—R. A. Schmucker, Red Hook, New York; with Braden Copper Co., Rancagua, Chile.—Edward Schoeppe, 1036 N. 3d St., Philadelphia; with M. Ward Easky, Construc. Eng., Philadelphia.—Wm. H. Smith, 62 Church St., Dedham; business—E. Worthington, Insurance Bldg., Dedham.— Wm. B. Spencer, 552 Main St., Medford; with Monks & Johnson, Engineers, Boston.—Raymond Stringfield, 229 S. Normandie Ave., Los Angeles, Calif.; with Amer. Beet Sugar Co., Oxnard, Calif., after July 20.—Howard C. Thomas, 200 Washington St., Wellesley Hills; assistant in C. E.—Kebe Toabe, 79 Concord St., Lawrence; student at M. I. T.—Ed. C. Walker, 3d, 191 Babcock St., Brookline, Batavia, N. Y.; in Tech 3 yrs. for grad. work.—Andrew N. Wardle, 80 Oakdale Ave., East Dedham, Mass.; Asst. C. E. Dept., M. I. T.—R. D. Waterman, with Monks & Johnson, Engineers, Boston.—Jackson B. Wells, Fore River Ship & Engine Co., Quincy, Mass.—Chas. W. Whitall, 71 Larch Road, Cambridge; coming back for M. S. degree.—Carl W. Wood, 39 Greenleaf St., Malden, Mass.; with Mass. State Highway Commission or U. S. Government Service, (Junior topographer), address later.—H. Young, Norumbega Boat House.